BRITISH RAINFALL.
1890.

LONDON :

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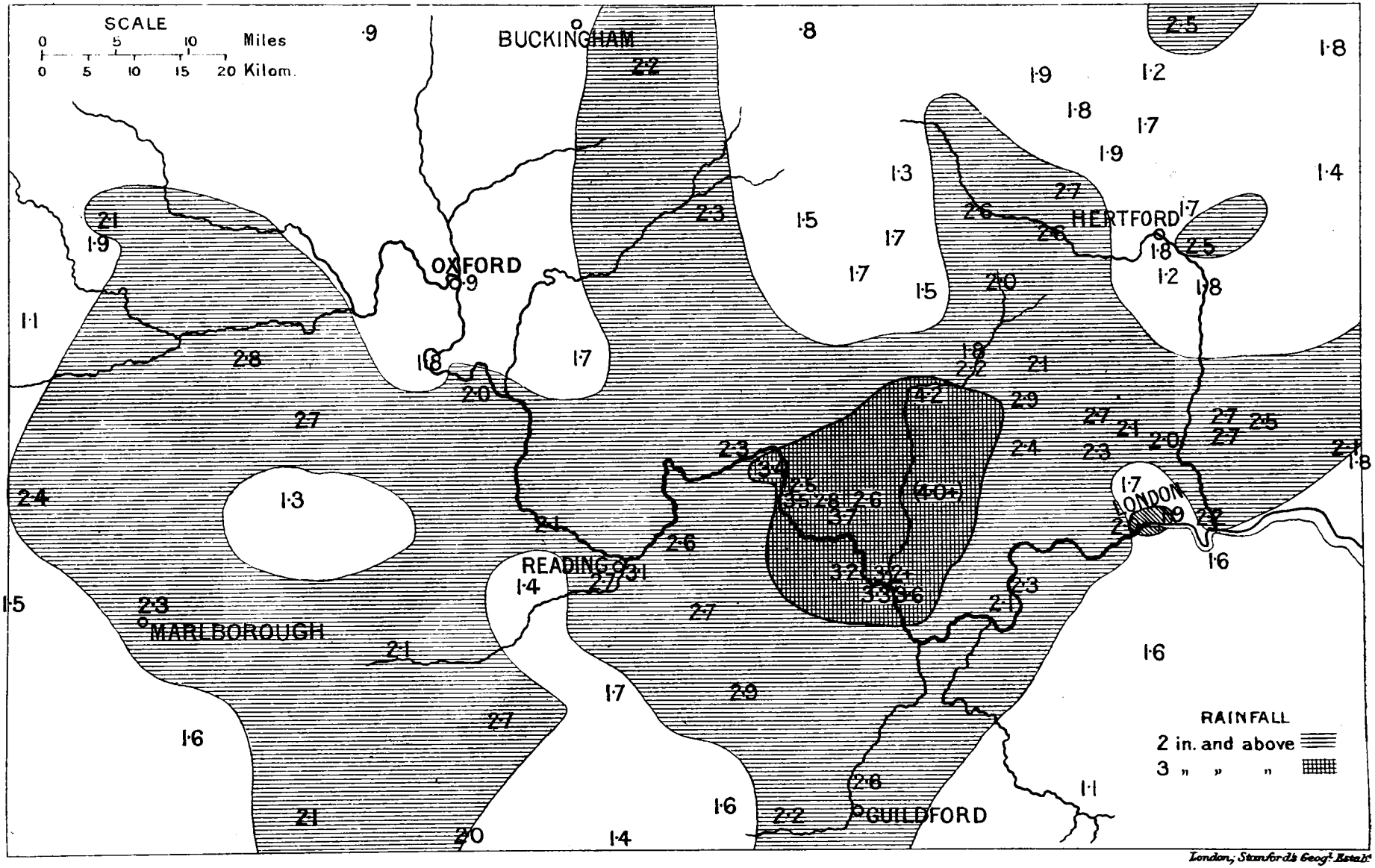
—

1891.

DEPTH OF RAIN, JULY 17TH 1890.



London, Stanford's Geogl Estabt

BRITISH RAINFALL, 1890.

ON

THE DISTRIBUTION OF RAIN

OVER THE

BRITISH ISLES,

DURING THE YEAR

1890,

AS OBSERVED AT NEARLY 3000 STATIONS IN GREAT BRITAIN AND IRELAND,

WITH ARTICLES UPON VARIOUS BRANCHES OF RAINFALL WORK.

COMPILED BY

G. J. SYMONS, F.R.S.,

CHEVALIER DE LA LÉGION D'HONNEUR,

Secretary Royal Meteorological Society; Membre du Conseil Société Météorologique de France; Member Scottish Meteorological Society; Korrespondirendes Mitgleid Deutsche Meteorologische Gesellschaft; Registrar of Sanitary Institute; Fellow Royal Colonial Institute; Membre correspondant étranger Soc. Royale de Médecine Publique de Belgique, &c. &c. &c..

AND

H. SOWERBY WALLIS, F.R.Met.Soc.

LONDON:
EDWARD STANFORD, COCKSPUR STREET, S.W.
1891.

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ERRATA IN BRITISH RAINFALL 1889.

Page 35. 1876, August, *for* 29·4 *read* 2·94.
,, [51]. Div. V., Babbacombe, *for* "high" *read* "light."
,, [63]. Last line but one, *for* 57 *read* 5.
,, [95]. May, line 3, *for* "three" *read* "two."
,, [113]. Sheppey, Greenborough. Return incorrect.
,, [114]. Brighton, Prestonville Road. Second gauge incorrect.
,, [125]. Trowbridge, Lovemead, *should be* Dr. G. Tayler.
,, [130]. Bristol, Redlands, *for* 29·53 *read* 29·53?
,, [132]. Market Drayton, Buntingsdale, *for* 31·48 *read* 26·48.
,, [135]. Grantham (Heydour). Return incorrect.
,, [165]. Loch Drome. Height 7 in. not 7 ft.
,, [171]. Belfast (Divis Mountain). Return incorrect.

BRITISH RAINFALL, 1890.

I AM always trying to get this volume out earlier in the year; but, with my present staff, it is impossible; and even if I had additional help, it could not be issued before June, if as at present, the values in it are to be checked against the returns sent in to the various meteorological centres in the United Kingdom. Holding, as I do, that the first essential is the highest possible degree of accuracy, it would, I think, be unwise to issue the volume until all comparisons reasonably practicable had been made, and all chances of detecting error exhausted.

The only important alteration in the volume is that due to the completion of the decade 1880-89, which has enabled us to use the average for that period as a basis of comparison; its relation to the average for a half-century is considered in the early part of the volume.

Attention may also be called to the article on the evaporation from soil, and to the details of the great rain of July 17th.

G. J. SYMONS.

62, CAMDEN SQUARE, LONDON, N.W.

July 4th, 1891.

REPORT.

General Office Work. —The contrast between what this is now, and what it was thirty years ago, is most striking. Even twenty years back it was not a quarter what it is now. Then I had no assistance, except that from members of my family, who have now passed away. None of the county organizations had been started, the Royal Meteorological Society had no stations, and the Meteorological Office had very few, consequently the checking and comparing of the returns as sent to me, with those published elsewhere, was a very small matter. At that time monthly returns were received and verified from about 70 stations only, of which 50 were printed in the *Meteorological Magazine*; we now receive about 300 per month, of which about half are regularly inserted in the *Met. Mag.* The total number of annual returns then dealt with was 1,504, it is now nearly double that. Of the 1,504, only 752, or exactly 50 per cent., reported the max. fall in the year. For 1890 we have this datum from 2,081 stations, or just 75 per cent. of the total number. It was not until 1872 that I began collecting records of the *daily* fall throughout the year, except from the stations which reported at the end of each month—previous to that I had the monthly totals only. The daily sheets contain, on an average, about 160 entries, and every sheet that comes in (as is the rule with every return, be it what it may) is re-cast in order to search for errors; of these forms we have received for 1890, 1,302, this alone gives 15,624 columns to be added up, and as every error detected is referred to the observer, the correspondence on this one subject is a serious matter. Therefore, while the number of records is doubled, the returns also are in greater detail, thus that part of the work is at least three times as heavy as it was. And naturally the correspondence and the organizing work have similarly developed; and, although merely a collateral matter, the spread of meteorological observations and organizations all over the world renders a careful watch upon meteorological literature indispensable, if our organizations is to be kept, as I wish it to be, the most nearly perfect that there is. Foreign, as well as English instruments must be procured

and tested, which involves the expenditure of much labour and some money. It is needless to dwell on the thousands of forms issued, received, checked and copied; those accustomed to statistical work will understand the labour involved in producing a book with so many figures as this, and with so few errors as those given on a preceding page, with reference to its immediate predecessor. Obviously I cannot do all this myself, and I am glad to acknowledge how much I owe to Mr. Sowerby Wallis, who has now been helping me for nearly twenty years, working as those only do whose hearts are in their work, until he is as familiar with the routine and details as I am. And that is why in this, my thirtieth annual issue, I have asked him to let me put his name along with mine on the title-page. We have also one junior assistant, and yet have to obtain some outside help, so that altogether the staff is growing almost proportionately to the work.

Enquiry after other Observers.—In looking back at the 1871 volume, I noticed the above heading, and I reproduce it because now, as then, there is need for it. I cannot induce all my correspondents to be as sharp in looking out for recruits as is necessary. They look at the volume and, if they think at all about other observers, they reason somewhat thus, "Oh! Symons has some thousands of correspondents; he cannot want any more." If I could place all my correspondents over the British Isles as one could place chessmen on a board, and if observers never removed, became ill, or died, I think that 3,000 would do; but as the British Isles contain upwards of 120,000 square miles, each observer would find himself six miles from his nearest neighbour, a space wide enough for many a hailstorm to slip through unrecorded. Of course no such distribution is possible. We have usually about fifty deaths per annum, and a total of about 150 absent returns. To keep our staff where it is (without allowing for progress) these 150 must be annually replaced. Will all who read this make sure that everyone, whom he or she knows to be making good observations, is sending me a copy of them? If the name does not appear in the General Tables, it would be very little trouble to send it on a post card, and then I could apply direct to the new observer.

Old Observation Books.—These are very often destroyed—sometimes by the observers themselves, sometimes by their descendants; this is a pity, it is much better to send them either here, or to

the Royal Meteorological Society, for examination and preservation. Many and many are the years of observations which have been destroyed as waste paper by those who knew no better.

Rainfall Rules.—Although I reprint these rules in each succeeding volume, I am sorry to say that not a year passes without proof that some observers have either never read them, or forgotten them. Perhaps if I give some homely illustrations they will illustrate the need of a little care. The rules can be referred to at the end of the volume, I give here merely the reference number, and the illustrative offences :—

I. I went to see one of my best observers, one who has helped for many years and done excellent work, and I found a currant bush far above the level of the gauge, and clearly breaking this rule.

II. Another good observer decided that he must have a new gauge, and while considering the subject thought that the old one was not in the best possible position, so he moved the old one and put the new and the old close together. The result was to destroy the continuity of his record, because it is now impossible to know whether any difference in the records of future and of byegone years is due to a change in the rainfall, or to the change in position. Attention to Rule II. would have shown that the old gauge should not have been moved, until comparative observations had been made between it in the old position, and the new one in the new position.

IX. This rule is still too frequently broken, and it not only gives trouble when dealing with heavy falls, one of which *e.g.*, four observers in a town will set down to the 16th, and one (wrongly) to the 17th, but naturally the monthly totals also are not comparable, because a fall on the last day of a month is by some observers put into one month and by others into the next.

XV. As regards this rule, the health of the observers has to be considered, and I should be sorry to seem *exigeant*, but some observers in robust health, who will go skating for hours, leave their rain gauges to their fate in time of snow. Mr. Mawley was I think perfectly right when* in an excellent paper on the measurement of snow, he said: "Considering how slight are the demands which a rain gauge makes upon an observer's time, during the greater part of the year, I do not think that he should begrudge the little additional care and attention which these snow measurements occasionally require."

* *British Rainfall*, 1880, p. 38.

XVI. OVERFLOW.—This old grievance still goes on—not often, it is true, but it is quite unnecessary. We now know that no gauge ought to hold less than six inches, which the old ones did not do—but that is no reason why they should be left to run over. Surely an observer who knows that his gauge will hold only two or three inches, might in a heavy rain go and see if it was nearly full, and if so empty it, and leave it to refill. Owing to the unusually heavy falls on May 25th and July 17th, the list of gauges allowed to run over is as follows :—

May 25.	Lyme Regis, Dorset.
July 17.	Knowle Green, Staines, Middlesex.
,, ,,	Branch Hill Lodge, Hampstead, Middlesex.
,, ,,	Hillingdon, Uxbridge, Middlesex.
,, ,,	Pinner Hill, Middlesex.
,, ,,	Gorhambury, St. Albans, Herts.
,, ,,	Greenlands [Henley-on-Thames], Bucks.

Self-Recording Rain Gauges.—This subject has not been mentioned since the volume for 1887. I then stated that although Casella's continued to work perfectly, and Richard's £20 one did so too, Richard's £10 one had failed. Since then the first named two have continued to work well, and MM. Richard Fréres have added an electrical arrangement to their £10 one and it, in its altered form, has been working here for between one and two years without a single failure. As delivered by the makers this gauge requires a box to support it, and two or three cells have to be purchased, but, as Richard's have now a house in London, I suppose that one of these gauges could be delivered complete and erected in any part of the British Isles for about £12—the clock requires winding, and a new paper has to be put on once a week, and that is all that the observer has to do—except in time of frost when he must put in a small lamp to prevent a burst. Mr. W. R. Binnie, Stud. Inst. C. E., has devised a perfectly original pattern of recording rain gauge, and has shown me most satisfactory diagrams produced by it. As no description has yet been published, and no gauges have been made for sale, I will say no more than that as regards lowness of price it is expected to leave all others far behind.

Days with Rain.—I think that there can be no doubt that the records under this head are rapidly improving. Observers who record temperature and pressure are usually accurate in their record of days with rain, because, when reading the other instruments, they

look into their rain gauge. Those who report too few days are those who only go to their rain gauge "when they think that there is something to measure." As their opinion is often wrong, the small falls are left to accumulate, and thus although the total *amount* of rain is correct, the number of entries is too small.

Finance.—I am glad to say that this also is improving slightly. Just the same difficulty occurs with respect to subscriptions as to returns—that of replacing those taken from us by death and other causes. Death alone has this year struck £17 15s. 0d. off the subscription list, and as far as I yet know only £1 16s. 0d. of these amounts will be continued by the families of the deceased—consequently I am obliged to invite any help which may be placed at my disposal. I wish some of my rich correspondents were as desirous of working up rainfall problems as I am. One whose name is in the obituary has left £30,000 to a Medical College, and two others (one of whom never paid for his books) have left respectively upwards of £100,000 and upwards of £500,000. The thousandth part of either of these sums would have given me an extra assistant for a year or two and enabled me to make this volume far better than it is. However, I have no wish to grumble ; on the contrary, I am very grateful for the confidence shown by the contributions in the following list, and not only by those, but by other smaller sums which, though they cannot be set out here, are none the less evidence of sympathy, and which in the aggregate form a useful contribution towards our now necessarily heavy expenditure.

LIST OF ALL SUMS OF £1 AND UPWARDS RECEIVED IN PAYMENT FOR BOOKS, DIAGRAMS, &c., OR AS CONTRIBUTIONS TO THE GENERAL EXPENSES OF RAINFALL INVESTIGATIONS IN 1891.

CORPORATIONS AND WATER COMPANIES.

	£	s.	d.
Accrington Gas and Water Co.	1	1	0
Aire and Calder Navigation Co.	1	6	0
Blackburn Corporation	1	0	0
Bradford ,, (3 years)	3	3	0
Brighton ,,	1	10	0
Bristol ,,	1	1	0
Bury ,,	1	0	0
Cambridge Water Works Co.	1	1	0
Doncaster Corporation	1	1	0
Newcastle Water Works Co.	2	2	0
Nottingham Corporation	1	1	0
Weaver Navigation Co.	1	6	0

	£	s.	d.
Abbotts, R. W., Esq.	3	15	0
Addington, Rt. Hon. Lord	1	1	0
Adie, Mrs.	1	17	0
Ainslie, W. G., Esq., M.P.	1	0	0
Ainsworth, Col.	1	1	0
,, ,, (2 years)	3	10	0
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,, F., Esq.	1	0	0
,, H. St. V., Esq.	1	1	0
Andersson, W. H. jun., Esq.	1	0	0
Appach, Miss	1	1	0
Armstrong, Rt. Hon Lord, FRS	1	10	0
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Bell, Major	2	2	0
,, H., junr., Esq	1	6	6
Bentley, G., Esq.	1	1	0
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Berners, C. H., Esq	1	1	0
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Bradshaw, Admiral	2	10	0
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Branfill, Gen.	1	1	0
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Meares, J. L. D., Esq.	1	0	0
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,, A. S. Leslie, Esq.	1	0	0
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Smart, F. G., Esq.	1	0	0
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„ Harold, Esq.	2	2	0
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Spicer, Albert, Esq.	1	1	0
„ Miss C.	1	1	0
Spooner, Albert, Esq.	1	1	0
Stanton, Miss R.	1	0	0
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Stirling, P., Esq.	2	2	0
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„ J., Esq.	1	5	0
Watson, Rev. J.	1	10	0
„ J., Esq.	1	0	0
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„ J., Esq., C.E.	1	1	0
„ J. M., Esq.	1	2	0
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„ J. G., Esq.	1	0	0
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ON THE AMOUNT OF EVAPORATION.

By G. J. Symons, F.R.S.

In *British Rainfall* 1889, I dealt exclusively with the amount evaporated from a surface of water, and chiefly, with the results of experiments carried out either under my supervision, or at any rate within my cognizance.

I showed that the temperature of the surface of water in a tank 6 ft. square, 2 ft. deep, and buried in earth nearly up to its rim, was fairly representative of that in large reservoirs, but was, in hot weather, above the temperature of a running stream. I showed that during 14 years the average loss from such a tank, in the north of Hampshire, had been 18 inches, and that when removed to London and similarly sunk in the ground, the evaporation had averaged only 14½ inches, which decrease I attributed to diminished sunshine, and less wind.

I further showed that nearly all the so-called evaporators sold by opticians, and several patterns constructed to the order of various observers, allowed the water to become much too hot, and therefore sustained losses ranging up to more than twice that shown by the tank.

I left it tolerably evident that for England the 18 inches shown by the tank was, in my opinion, a value to be adopted in preference to any other.

Lastly, I stated that shortness of time had prevented my dealing fully with the work of Dines, Evans, Greaves, Lawes, Miller, Peek, Russell, and Slade, but that I would try to do so in the present volume. This promise I now fulfil.

George Dines, Esq., F.R.Met.Soc.

Mr. Dines's first experiments were laboratory ones* with a very delicate balance, and a cup of water with a thermometer so suspended that its bulb was on the surface of the water. With this arrange-

* *Proc. Meteor. Soc.* (1870), Vol. v., p. 199.

ment Mr. Dines was able to prove that a given volume of water became less by evaporation whenever its surface temperature was above that of the dew point of the air surrounding it. And he also proved that the reverse held good, and that whenever the temperature of the surface of the water in the cup was below that of the dew point of the surrounding air, water out of that air was condensed, and the cup became heavier.

Mr. Dines tried also some evaporators in the open air. His largest (No. 1) was 6 inches deep, 18 inches in diameter, surrounded nearly to the rim by earth, and sunk in the hollow trunk of an old elm, and he had two others (No. 2) 8 inches diameter, and 6 inches deep, and (No. 3) 5 inches diameter, and 3 inches deep. The loss from these was as follows :—

	No. 1.	No. 2.	No. 3.
Amount	2·89 in.	4·17 in.	5·02 in.
Ratio	100	144	174

That this difference was almost wholly due to the heating of the vessels was not only evident *à priori*, but demonstrated by Mr. Dines immersing No. 2 and No. 3 in No. 1, when the results were :—

	No. 1.	No. 2.	No. 3.
Amount	5·51 in.	5·90 in.	5·62 in.
Ratio	100	107	102

In this paper Mr. Dines gave evidence of the effect of rim-protection in diminishing evaporation, *i.e.*, that if one vessel be nearly full, and another only half full, the evaporation from the former will much exceed that from the latter, because the wind will have free access to the water in the former, and not to that in the latter.

He also dealt with what may be called the question of wetted perimeter. Owing to capillary action, to the oxidation of the metal surface, and to ripples produced by wind, there is always a wetted surface above the true water level—if this be assumed to be 0·2 inch high, its area would be as under :—

Diameter of Evaporator	5 in.	8 in.	18 in.	6 ft. sq.
Wetted Perimeter	3 in.	5 in.	11 in.	58 in.
Area of Evaporator	20 in.	50 in.	254 in.	5184 in.
Wetted perimeter % of Water Area	15	10	4	1

As the ripples are larger in a large tank than in a small can, it is fair to assume that the wetted perimeter is deeper in large vessels

—but it most certainly is nothing like 15 times as deep—and if not, the smaller the gauge the greater the error produced by this cause.

Lastly, Mr. Dines referred to the amount of evaporation from grass and from soil, though he gave no figures, but merely stated that sometimes the evaporation from grass was greater than from water, but that usually it was less, both from grass and from earth, than from a water surface.

Dr. Evans, F.R.S.

The experiments originally started at Nash Mills, Hertfordshire, in 1836, by Mr. John Dickinson, and continued with new instruments since 1853, by his nephew, Dr. John Evans, will be most generally recognized under the name of the latter, who has had charge of them for nearly 40 years. These experiments were first suggested about 100 years since by Dr. John Dalton, F.R.S., and have for their object the determination of the proportion of the rain which falls, which percolates through layers of earth of different kinds, and of different thicknesses.

At Nash Mills, two cast iron gauges, 18 inches in diameter, 3 feet long, were provided with sharp rims, and with taps for drawing off any water which might percolate. They were filled, one with the ordinary surface soil of the neighbourhood, the other with fragments of the upper chalk, they were then placed upright, surrounded by a large mound of earth, and grass seed was plentifully sown both over the gauges and over the surrounding soil. A rain gauge was also established close by.

As it is rare for any percolation through either of these gauges (*i.e.*, through 3 feet of soil or of chalk) to occur before October or after March, Dr. Evans has always so divided his years that they run from Oct. 1 of one year to Sept. 30 of the following year, and he has further divided the year into halves, Winter (=Oct.—March) and Summer (=April—Sept.). I now proceed to epitomize the results as given (1) in a paper by Dr. Evans in *Proc. Inst. C.E.* vol. xlv. part iii. and (2) in his excellent lecture on *Physiography*, delivered before the Inst. C.E., Jan. 15, 1885.

In the first place I take the means for the thirty years, 1854–55 to 1883–84, and they give :—

	Rainfall.	Percolation through 3 ft. Soil.	Chalk.
Depth	27·84 in.	6·52 in.	10·65 in.
Per cent. of Rainfall	100	23	38

Deducting the 6·52 in. and 10·65 in. respectively from the rainfall shows that between 17 and 21 inches of rain per annum either runs off the surface where these gauges are placed, or is evaporated. I do not know that Dr. Evans has attempted to determine the proportion of the loss due to these several causes. If the Strathfield Turgiss value of 18 inches be accepted as showing the loss from a water surface, and also Mr. Dines's view that the loss is usually less from grass and soil than from water, it may perhaps be assumed that about 15 inches evaporate, and about 2 to 6 inches run off the surface; but this is purely imaginary, and the actual values should if possible be ascertained.

As already intimated, the percolation differs widely in Summer and in Winter. The following are the averages :—

	Summer.			Winter.		
	Rainfall.	Percolation through 3 ft. Soil.	Chalk.	Rainfall.	Percolation through 3 ft. Soil.	Chalk.
Depth	14·09 in.	... ·81 in.	... 2·12 in.	13·75 in.	... 5·71 in	... 8·53 in.
Per cent. of Rainfall	100	... 6	... 15	100	42	62

On looking at the values for the summer or the winter halves of this 30 year group, the first feeling is of surprise at their variability; but closer scrutiny shows that the *loss* is nearly steady, and that the variation in the percolation is chiefly due to the total rainfall, though modified by *how* the rain falls.

It is not necessary to reproduce Dr. Evans's valuable table; a few cases will illustrate the matter. Take first, Summers. The percolation through the chalk was in 1860 8·94 inches, and in 1879 12·82 inches, and on the contrary in five several years not a drop percolated. It has already been shown that the total loss, as indicated by the chalk gauge, is 17 inches—of this perhaps 12 inches would be due to the summer and 5 to the winter. The following gives the rainfall in the summers above referred to, and other data as shown by the heading :—

	Year.	Summer Rainfall. in.	Average Loss. in.	Flow through 3ft. Chalk. Computed. in.	Observed. in.	Diff. in.
Wet	1860	20·40	12·00	8·40	8·94	+·54
	1879	25·09	12·00	13·09	12·82	—·27
Dry.	1865	12·60	12·00	·60	nil	—·60
	1870	7·59	12·00	nil	nil	nil
	1873	11·29	12·00	nil	nil	nil
	1881	14·85	12·00	2·85	nil	—2·85
	1884	9·76	12·00	nil	nil	nil

Similar examination of the Winters gives the following as the largest three, and the smallest three, values for the percolation in those six months. Then we have the following table :—

	Year.	Winter Rainfall. in.	Average Loss. in.	Flow through 3 ft. of Chalk. Computed. in.	Observed. in.	Diff. in.
Wet.	1882–83	22·67	6·00	16·67	17·16	+ ·49
	1880–81	20·07	6·00	14·07	16·36	+2·29
	1872–73	21·55	6·00	15·55	16·05	+ ·50
Dry.	1858–59	9·64	6·00	3·64	2·69	— ·95
	1854–55	9·32	6·00	3·32	3·45	+ ·13
	1864–65	10·93	6·00	4·93	3·55	—1·38

C. Greaves, Esq., M.I.C.E.

The late Mr. Greaves (President of the Roy. Meteor. Soc. for 1878–79) took great interest in the question of evaporation, partly perhaps on account of its close connection with his professional work as engineer to the East London Water Company—which position also enabled him to establish and maintain somewhat elaborate experiments. Plans and sections of his apparatus are given in *Proc. Inst. C.E.*, (1875–76) Vol. xlv., but they can be briefly described.

To determine the percolation through, and therefore the loss from, surfaces of soil and of sand, he had two slate tanks made 3 ft. × 3 ft. × 3 ft., to the bottom of each of which a tube was attached to carry off any water which reached it. One was filled to within 2 inches of the top with sand, the other with ordinary soil, and each was sown with grass. A rain gauge was sunk near to them.

In order to ascertain the loss from a water surface, he utilized a stream about 12 feet broad, running through the works at Old Ford, and close to the above-mentioned percolation gauges. On this stream he moored a raft of stout timbers about 6 feet square, and in this raft he floated a slate tank, 3 ft. square and 1 ft. deep, and in it he usually kept about 7 inches depth of water.

Mr. Greaves started his soil gauge in 1851, but the sand and the water ones only in 1859. It will therefore be best to take the averages for the 14 years 1860-73, during which all were being used simultaneously :

	Rain.	Water.	Ground.		Sand.	
		Evaporated.	Percolated.	Evaporated.	Percolated.	Evaporated.
Mean Amount...	25·72in.	20·61in.	7·58in.	18·14in.	21·41in.	4·31in.
Per cent. of Rain	100	80	30	70	83	17
Per cent. of Evap. from Water ...	—	100	—	88	—	21

This gives 30 per cent. of the rain percolating against the 23 per cent. at Nash Mills—and it gives 18·14 inches evaporated, or running off, from a surface of soil against 21·32 inches so evaporated or run off at Nash Mills. On the other hand the water value is 20·61 inches against 18·03 inches at Strathfield Turgiss. Possibly this increase of about 14 per cent. is partly due to the shallowness of the water layer in Mr. Greaves's tank.

Sir J. B. Lawes, Bt., F.R.S.

Nowhere has so much time and money been spent on the question of percolation as at Sir John Lawes's experimental station at Rothamsted, Herts. Aided throughout by Dr. Gilbert, F.R.S., Sir John has spared nothing in the endeavour to obtain perfectly accurate results.

It was we believe at Rothamsted that the disturbing effect of filling percolation gauges was first noticed, at any rate nowhere has the difficulty been so seriously grappled with. The difficulty is that of digging up earth, and subsequently packing it as closely as it was before. If this cannot be done, it follows that the soil in a percolating gauge does not truly represent natural soil, and is more permeable than it was before removal. At Rothamsted efforts were made to attain this by compression, by loading the soil with tons of pig iron but in vain. Then arrangements were made for cutting around and under cubes of earth without displacing them, placing funnels underneath, walling up the sides in brick and cement, and then grouting in the space between the cubes and the walls. There are three such blocks each about 6 feet square, and 20, 40, and 60 inches deep, respectively. The average results for 1871 to 1880 were :—

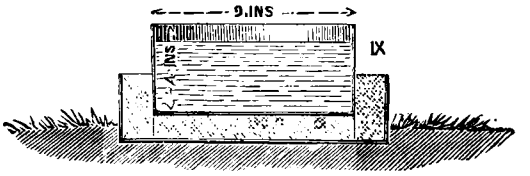
		20 inches.		60 inches.	
	Rain.	Percolated.	Evaporated.	Percolated.	Evaporated.
Amount	31·45in.	14·04in.	17·41in.	13·24in.	18·21in.
Per cent. of Rain	100	45	55	42	58

Dr. Evans, in his lecture on Physiography already quoted proceeds to divide percolation through the 60 inch gauge, into that for Summer and for Winter, and it is rather curious that it produces almost exactly the loss which fitted so well the results of the Nash Mills experiments. Here are the figures :

	Rothamsted—Summer.	Winter.
Rain	16·36in.	..... 15·09in.
Percolated	4·11in.	..... 9·13in.
Evaporated or lost	12·25in.	..... 5·96in.
Adopted for Nash Mills	12·00in.	..... 6·00in.

S. H. Miller, Esq., F.R.A.S.

Mr. Miller, while living at Wisbech, devoted great attention to the subject of evaporation. His observations began in 1861, and were continued for about 14 years. His first instrument was that shown in the following sketch—and with it he obtained the following values :—



Evaporation at Wisbech.

1862	17·54 in.	...	1867	18·69 in.	...	1872	15·29 in.
1863	22·47	...	1868	24·14	...	1873	16·81
1864	21·97	...	1869	19·33	...	1874	17·76
1865	23·40	...	1870	15·83	...	1875	17·38
1866	18·55	...	1871	14·30	...	...	...
Mean ...	20·79			18·46			15·56

Of these values the mean is 18·46 inches. There is a notable decrease in the second 7 years from 20·97 in. to 15·96 in.—which is not easily understood because it seems strange that there should be a decrease of 25 per cent. in the amount evaporated, while the rainfall in the two periods differed only 3·35 inches, or about 15 per cent.

Mr. Miller contributed several short notes on evaporation to early volumes of *British Rainfall* (1869, &c.), but his fullest details were given in the essay for which he received the prize of the Society of Arts and Sciences of Utrecht, and which was published in that city in 1878. The average evaporation for three years was as under :—

	Depth.	Ratio to Water.
Water	17·02in.	100
Peat	13·62	80
Sand	14·03	83
Clay	13·58	80
Garden mould	15·12	89
Garden ,, (in shade) ...	6·27	37
Long grass	48·16	283
Short grass	23·50	138
Red clover	53·44	314
White clover	31·15	183

In the important work which (jointly with Mr. Skertchley) he wrote upon "*The Fenland*," he gives the following interesting details as to the evaporation from plants :—

The Sunflower (*Helianthus Augustifolius*).—A plant having a single stem and a single flower, was under observation in 1874. From August 2nd to October 17th, daily records were made. The greatest amount of water evaporated by the plant in one day was 1 lb. 7 oz. on the 20th August the temperature in the shade was 83°, and a black bulb thermometer placed near the flower registered 134°. The total weight of water evaporated in the period above stated was 42½ lbs. avoirdupois.

In 1876, a branching plant, with several flowers, showed a far greater amount of transpiration. It was observed daily from July 11th to October 5th. The greatest amount of exhalation in one day, on 13th August, was 5 lbs. 4 ozs. (temp. 91° in shade and 132° in sun's rays.) The total weight of water exhaled in the season named from this one plant was 156 lbs. 14 ozs.

The Primrose (*Primula acaulis*).—This is an active evaporator, and is impatient of drought. The leaves of one under observation had an average area of 54 square inches. The greatest daily evaporation was 11 ozs. on 2nd June, 1875. Total exhalation from beginning of April to 18th July was 30 lbs.

Geranium (*Pelargonium Vesuvius.*)—This plant, under observation from June 4th to September 3rd, 1873, had an average evaporating surface, including the stem, of 196 square inches, the total amount of transpiration for each square inch was 1¾ ozs. Apply this to a single garden bed of 100 plants of equal area to that observed, and we have, in the period named, about 18 cwts. of water discharged into the atmosphere by these 100 plants.

The Cabbage (*Brassica oleracea.*)—One cabbage, which grew to an average size was observed from June 1st to August 31st, 1876. On the 13th August 36 ozs. of water evaporated from this plant, and the total amount in the three months was 68 lbs. 7 ozs.

Trees. Experiments have been made with two trees, a spruce and an oak. Trees of the fir kind, on account of their persistent foliage, give off a greater amount of vapour than deciduous ones, like the oaks ; the latter, however, as well as the former, are very active evaporators from May to September, the amount then varying from four to five times the rainfall over the same area. The spruce has been observed to absorb moisture in the winter months.

I have worked out the average weight of water evaporated daily for each of the above plants, and it is satisfactory to note that there is fair agreement in the proportion between these averages and the greatest amount on any one day.

Plant.	Evaporation.		
	Daily Average.	Greatest on one day.	Greatest / Average
Sunflower	9 oz.	23 oz.	2·6 times
,, larger plant...	29 oz.	84 oz.	2·9
Primrose.....	4½ oz.	11 oz.	2·4
Cabbage	12 oz.	36 oz.	3·0

Evidently the maximum is about 2¾ times the average.

C. E. Peek, Esq., M.A., F.R.Met.Soc.

Mr. Peek has not been long observing the amount of evaporation, but his results from (near Lyme Regis) Devon are interesting and useful. He first erected two tanks, 2 ft. square and 1 ft. 3 in. deep, so that their upper edges were 4 ft. above the ground, and had them surrounded on the sides by louvres, like those of Stevensons thermometer stands. One tank was nearly filled with water, the other with soil on which grass was grown. During 1887 a third similar tank was procured, sunk in the earth nearly to its rim, and almost filled with water. The results have been :—

Evaporation at Rousdon Observatory.

	Ground Level.	4 ft. above ground.	
	Water. in.	Water. in.	Earth. in.
1886	—	22·81	24·79
1887	—	25·61	(27·90)
1888	16·82	19·91	24·15
1889	17·25	20·53	(27·58)
Mean	—	22·22	26·10

From this it seems evident that the evaporation from the water surface *at the level of the ground* will be almost identical with that at Strathfield Turgiss, viz., 18 inches.

H. C. Russell, Esq., B.A., F.R.S.

Mr. Russell, Government Astronomer for New South Wales, took up the subject of evaporation almost immediately upon his appointment in 1870, and many interesting facts are to be found in his various official publications.

His predecessors, Mr. Scott and Mr. Smalley, had each designed and used at Sydney, and sent to some stations in the Colony, a pattern of evaporator which will presently be described. Mr. Russell was anxious not to break the continuity of the observations, and to preserve the means of comparing the results from these remote stations with those from similar instruments at Sydney—and, therefore, for some time kept on Mr. Scott's and Mr. Smalley's instrument, as well as a new one devised by himself.

The instruments were thus described by Mr. Russell in the introduction to his annual volume for 1871.

Scott's is a glass vessel 8 inches high and 8 inches in diameter, standing on the ground, and usually containing 6 inches of water. Loss was ascertained by lowering a pointed wire until it reached the water surface, this wire was attached to a vernier reading to 0·002 inch.

Smalley's is a tin can 12 inches high, 8 inches in diameter, painted white, standing on the ground, and usually containing about 8 inches of water. Loss was ascertained by weighing the vessel and its contents each morning.

Russell's is a galvanized iron tank 4 ft. in diameter, 2 ft. 6 in. in depth, buried 2 ft. 4 in. in the earth, and surrounded by grass. Loss was ascertained by the reading by a microscope of the divisions on a rod carried by a small float.

Unfortunately the New South Wales Government seem to have ceased to publish the Sydney observations for some years between 1879 and 1885, as my set is incomplete, and so is that of the Roy. Met. Soc. I cannot, therefore, as I intended, give a complete table from 1860 to 1889—but must give merely the averages during such part of the comparison as I have, viz. : March 1871 to Dec. 31st, 1879—and these are as follows. I have given below them, the true means corrected for days omitted from the comparison because one or other of the evaporators was out of order :—

	Scott's, Glass.	Smalley's, Tin.	Russell's, Tank.
Mean of comparative observations...	49·22in.	54·83in.	31·69in.
True mean at Sydney	50·45in.	(56·10)in.	(32·45)in.
Ratio	156	173	100

This shows that a tank, somewhat resembling (but smaller than) the standard one which at Strathfield Turgiss lost 18 inches per annum, loses at Sydney about 32½. Perhaps allowing for difference

of size, it may be assumed that a fac-simile of the Strathfield Turgiss tank would in the climate of Sydney lose 30 inches per annum. We see also that the small and exposed ones give as wild results at Sydney as did their nearest resemblants at Strathfield Turgiss.

During 1887 and 1888, Mr. Russell had tanks similar to the Sydney one, and similarly buried in the ground, observed at four other places in the Colony with the following results:

Stations	Sydney.	Walgett.	Young.	Hay.	Lake George.
Latitude.....	33°51′ S.	30° 2′ S.	34°18′ S.	34°30′ S.	35° 4′ S.
Longitude	151°13′ E.	148°10′ E.	148°21′ E.	144°56′ E.	149°23′ E.
Evaporation 1887	34·34	54·19	29·03	31·19	32·12
,, 1888	36·33	65·25	43·80	45·64	47·72
Mean	35·34	59·72	36·41	38·42	39·92
Ratio to Sydney.	100	169	103	109	113

For 1887 and 1888, I have the results from two dishes 2 ft. × 2 ft. and 8 in. deep, sunk in holes dug for them in the observatory lawn, the rims just rising above the surface. Both were filled with ordinary soil, but one was turfed the other was kept bare. The results for days unvitiated by overflows were:

	Water.		Soil.		Turf.
1887	33·36	.....	31·88	.....	36·47
1888	36·29	.....	30·22	.....	37·71
Mean	34·82	.....	31·05	.....	37·09
Ratio to water...	100	.....	89	.....	106

We must now try to classify the results, and so render them available for practical use.

(1). *As regards the evaporation from a water surface*, the following are the values:—

(α)	On the Canals near Dijon.....	22½ inches
(β)	At Strathfield Turgiss	18 ,,
(γ)	At Camden Square, London..	14½ ,,
(δ)	At Old Ford, Essex.....	20⅓ ,,
(ϵ)	At Rousdon Obs., Devon ..	18 ,,
(ξ)	At Sydney, New South Wales	32½ ,,
(η)	At Paris*	21 ,,

I think from this that there is not much doubt that from a large surface of nearly stagnant water, such as a reservoir, the loss in the

.* This value is *only approximate*. A tank of considerable size and analogous to the one at Camden Square, has been recently established at the Bureau Central Météorologique by Prof. Mascart, and the results having been forwarded to me by M. Angot, I think, from several small calculations, that on a series of years the mean will be *about* that above stated.

British Isles may be taken at 18 inches, but that on the Continent and in semi-tropical climates, it is greater; perhaps in some places twice that amount.

(2). *As to the relation between the evaporation from a surface of water and from bare, or cultivated, soil.* This is not easily determined, because I think that in some of the experiments reported, rain, when it falls very heavily, runs off the surface and escapes record, *i.e.*, as it does not percolate, it is assumed to evaporate; my impression is that it does neither, and that in that respect the observations are unreliable. However, here are the best which I can find, expressed as per centages of the evaporation from stagnant water.

	Soil.	Grass.	Clover.	Sand.
(α) Old Ford, Essex	88 ...	...	...	...21 (drained)
(β) Wisbech, Cambridge	80 to 90...	140 to 280...	180 to 310...	83
(γ) Rousdon, Devon	— ...	118 ...	—	...—
(δ) Sydney, New South Wales...	89 ...	106 ...		...

Some of these values agree more closely than I expected, and until better ones are available we may, I think, assume that the evaporation from soil is 90 per cent. of that from a water surface, say 16 inches per annum in England; as regards that from cultivated ground the experiments show it to be 20 or 30 per cent. greater than that from a water surface—say 22 or 23 inches—but this is owing to the high value from grass artificially supplied with water. I doubt whether an ordinary grass field, moderately drained, loses by evaporation as much as 20 inches a year.

(3). *Amount of Percolation.*—Having obtained the value in (2) we must next see how it agrees with the percolation experiments, and if there are wide discrepancies, try to understand them.

(α) Nash Mills.—The rainfall is 28 in., the assumed evaporation from grassed soil is 20 in., therefore 8 in. should percolate or run off the surface of such soil—the recorded amount is 7 inches percolating through soil and 11 inches through chalk—the former is a very close agreement, the latter is probably due to the water draining away so rapidly that there was not water enough left to supply an evaporation of 20 inches.

(β) Old Ford.—The rainfall was 26 inches, deduct 20 in. and 6 inches is left for percolation; the actual amount was 8 inches, which is 2 inches more than calculation indicates; probably the soil was not thoroughly consolidated. The

effect of this is remarkably shown by the sand gauge there, which allowed four-fifths of the rain to percolate and left the sand so dry, that the evaporation from its surface was only 5 inches per annum, whereas *wet* sand was found by Mr. Miller to evaporate about 14 inches of water per annum.

(γ) Rothamsted.—Rainfall 31½ inches; percolation through 20 inches of soil, 14 in.; and through 60 inches of soil, 13 in., being respectively 2½ and 1½ inches greater than calculation indicates.

I will now group these together, but in doing so I shall adopt 18 inches as the amount of evaporation instead of the twenty above mentioned. I do so because as in all these percolating gauges the soil is in a drained and relatively dry state, it would have less than the average stock of water to draw upon. Here then is the table.

Station.	Material.	Rain.	Assumed to Evap.	Run off.	Percolate.	Actual percolation.	Difference
Nash Mills	Soil.....	28	18	3	7	7	— 0
,, ,,	Chalk.....	28	18	2	8	11	+ 3
Old Ford...	Soil.....	26	18	0	8	8	0
,, ,, ...	Sand	26	18	0	8	21	+ 13
Rothamsted	Soil, 20 in.	31½	18	0	13½	14	+ ½
,,	,, 60 in.	31½	18	0	13½	13	— ½

Rejecting the sand record for the reason already given, the agreement of all the others is beautiful; it almost looks as if the problems were solved.

ON THE EVAPORATION FROM A WATER SURFACE AT CAMDEN SQUARE, LONDON.

THE daily record of the depth of water evaporated from the surface of a tank, 6 ft. × 6 ft. × 2 ft., buried 20 in. in the ground, and in which about 22 in. of water is usually kept, has been continued. These values are printed *in extenso* on the following page. The entries with a + indicate that condensation had occurred to the amount shown against the + ; this is very rare, except when the water is very cold, and generally occurs only when ice is floating in the tank.

The following small tables give abstracts of the records since the tank was fixed in 1885 :—

TOTAL IN EACH MONTH AND YEAR.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1885.	·20	·38	·86	1·71	1·98	2·77	3·29	2·25	1·13	·77	·17	·11	15·62
1886.	·23	·13	·53	1·59	1·78	2·93	3·12	1·86	1·46	·63	·27	·12	14·65
1887.	+·07	·29	·76	1·72	1·79	3·68	3·76	2·54	1·25	·78	·21	·07	16·78
1888.	·07	·37	·48	1·16	2·71	2·24	1·44	1·90	1·17	·60	·43	·03	12·60
1889.	·03	·18	·62	1·07	1·76	2·97	2·34	1·96	1·52	·42	·29	+·13	13·03
1890.	·08	·19	·50	1·44	2·63	2·14	2·33	2·02	1·27	·79	·31	(·04)	13·74
1891.	(·03)	·16	·73	1·35	1·66	2·83							

MAXIMUM IN EACH MONTH AND YEAR.

1885.	—	·04	·06	·12	·15	·14	·17	·14	·11	·05	·02	·04	·17
1886.	·01	·04	·08	·12	·15	·16	·22	·13	·10	·07	·04	·04	·22
1887.	·04	·05	·06	11	·14	·23	·18	·16	·08	·05	·05	·02	·23
1888.	·04	·04	·05?	09	17	·17	·10	·13	·09	·05	·06	·02	·17
1889.	·02	·04?	·05	·08	·13	·18	·15	·11	·10	·04	·04	·04	·18
1890.	·04	·04	·07	·13	·19	·17	·15	·12	·09	·07	·08	—	·19
1891.	—	·02	·07	·13	·15	·18							

DAILY EVAPORATION AT CAMDEN SQUARE, FROM JULY, 1890, TO JUNE, 1891.

Date.	1890. July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	1891. Feb.	Mar.	April.	May	June
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	·03	·11	·05	·07	·00	+ ·03		·01	+ ·01	·03	·06	·11
2	·08	·03	·03	·06	·03	+ ·01		·02	·01	·05	·03	·04
3	·10	·06	·03	·06	·01	+ ·02		·01	·05	·02	·07	·04
4	·10*	·07	·03	·03	·01	+ ·02		·02	·04	+ ·02	·04	·03
5	·05	·08	·03	·05	·01	+ ·01		+ ·01	·05	·02	·10	·07
6	·05	·08	·05	·01	·04	·02		+ ·01	·04	·04	·07	·10
7	·05	·12	·07	·01	·01	·02		·01	+ ·05	·03	·09	·10
8	·09	·04	·03	·04	+ ·01	·01		·01	·04	·03	·05	·07
9	·03	·03	·02	·04	·03	+ ·01		·01	+ ·03‡	+ ·03	·03	·11
10	·08	·02	·06	·02	·01			·00	·04	·04	·03	·11
11	·06	·07	·08	·02	·00			·01	·00	·03	·09	·13
12	·05	·05	·03	·02	·00			·01	·01	·02	·09	·08
13	·06	·09	·01	·01	·01			·02	·01	·04	·14	·10
14	·05	·06	·04	·00	+ ·02			·00	·01	·03	·15	·12
15	·15	·09	·06	·03	·03			·01	·01	·05	·08	·11
16	·08	·12	·06	·04	+ ·01			·00	·00	·06	·06	·09
17	·07	·07	·03	·05	·00			·01	·01	·07	·01	·09
18	·06	·07	·03	·06	+ ·02			+ 01	·02	·05	·02	·10
19	·08	+ ·01	·03	·04	+ ·01			·00	·03	·05	·06	·13
20	·11	·07	·09	·02	·02			+ 01	·04	·05	·01	·18
21	·02	·04	·03	·01	·02			·01	·04	·06	·01	·16
22	·12	·11	·04	·01	+ ·03			·01	·02	·07	·03	·07
23	·15	·08	·03	·01	·01			+ ·01	·02	·13	·04	·01
24	·12	·04	·04	·00	·04			·01	·02	·10	·00	·05
25	·08	·08	·06	·00	·02			·00	·05	·03	·02	·05
26	·08	·02	·01	·04	·08			·01	·05	·05	·04	·13
27	·07	·06	·02	·03	·02			·00	·01	·08	·04	·16
28	·11	·06	·06	·01				·02	·05	·10	·05	·11
29	·09	·08	·04	·00	·01		+ ·08†	...	·07	·02	·04	·11
30	·03	·06	·08	·00			·04	...	·04	·05	·01	·07
31	·03	·07	..	·00	...		·00	...	·04	...	·10	...
Total	2·33	2·02	1·27	·79	·31	(·04)	(·03)	·16	·73	1·35	1·66	2·83

Observations impossible owing to frost

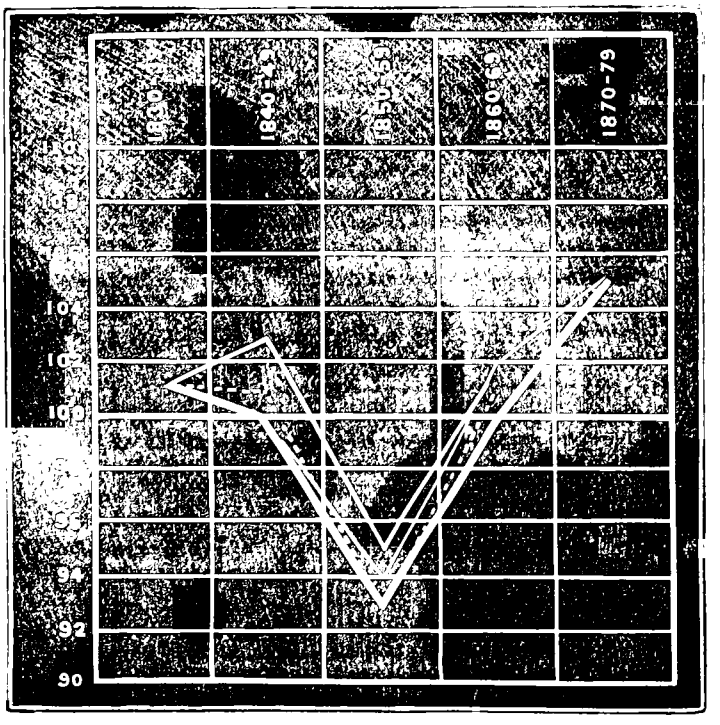
* Tank overflowed; amount estimated. † Ice floating in the tank.

‡ Snow drifted in; amount estimated.

ON THE FLUCTUATION IN THE AMOUNT OF RAINFALL.

CONSIDERING the very irregular way in which rain falls—local floods, local droughts, groups of wet years, groups of dry ones—nothing surprises me more than the frequency with which remarkable agreements occur in rainfall work. I shall revert to this point further on, but am so impressed with the latest illustration of the above remark, that I begin at the wrong end of this article by illustrating the result arrived at.

The following engraving appeared in *British Rainfall*, 1881, and I have had put upon it the fine hair like line to show the results obtained by the fresh investigation which I am about to describe. The agreement is so close that the lines almost hide one another. The greatest difference is $2\frac{1}{2}$ per cent. and the average is considerably under 1 per cent.



I will now begin at the beginning. Under the title of "On the relations of the Rainfall of ——— to the average 18— to 18—," I have for many years given in the latter part of these volumes, a

table comparing the fall in the year of which the volume treats, with that of the last completed decade. We are now commencing a new one, and therefore, in the corresponding table in this volume, the averages for 1880-89 will take the place formerly occupied by those for 1870-79. This being the case, it is essential, not merely to work out these 1880-89 averages, but also to ascertain the relation of that average to that of a long series of years. This has involved a very heavy series of calculations, but it is unnecessary here to set out anything but an abstract of the results. Some idea of the amount of work may be gathered from the fact that the following little table contains the results of working up nearly 5,000 yearly totals, and of upwards of 450 separate calculations of percentages. Perhaps a few lines as to how the results were obtained may be useful. The first step was to compute for every station of which the record was perfect for the ten years 1880-89, the average rainfall during those ten years, and to write them out for all such stations as had also a perfect record for the previous ten 1870-79, of these there are 528—that is to say, 528 records are perfect for the twenty years 1870-89, then for these 528 stations further extract was made of their averages for 1860-69, and of the 528, 132 go back 30 years without a break; 38 go back without a break for 40 years, and 11 go back the half-century, or to January 1st, 1840.

All these decadal means were taken out and tabulated.

Then the only decade common to all stations, that for 1880-89 was taken as unity, and the ratio at each station, of such previous decades as were complete, to that of 1880-89 was worked out. I give one as a specimen :—

	Decades.		
	1860–69.	1870–79.	1880–89.
Mean Rainfall	25·68 in. ...	27·24 in. ...	25·45 in.
Ratio	101 ...	107 ...	100

That is to say, at that station the rainfall in the ten years 1860-69 was 1 per cent. greater than in the ten years 1880-89, and in the ten years 1870-79 it was 7 per cent. greater.

The ratios thus obtained grouped together, give the following result. I have given *in extenso* the values for the eleven stations, each of which is perfect for fifty years—and the means for all the others.

Then I give the mean of the whole—and below that what I have called the the adopted mean—which is merely the arithmetical means all reduced by 1 per cent, so that the relation of the various decades

remain unchanged, and the effect is merely this, that the ratios instead of being relative to 1880-89, become relative to 1840–89, *i.e.* to the 50 years instead of to the ten—and they become strictly comparable with previous similar investigations, and this brings us back to the diagram already given—on which the thin line is merely the reproduction of these adopted values :—

Ratio of the Rainfall in various Decades to that in 1880-89.

Station.	1840-9.	1850-9	1860-9.	1870-9.	1880-9.
Sussex (Chilgrove)	102	98	101	107	100
Herts (Nash Mills)	89	91	91	99	100
Cornwall (Truro Roy. Inst.)	112	98	109	110	100
Worcester, Tenbury (Orleton)	94	95	102	107	100
Lincoln, Spalding (Pode Hole)	106	91	98	96	100
Lancashire, Bolton (The Folds)	110	104	115	111	100
,, (Monk Coniston Park)	92	89	106	93	100
York, W. R. (Redmires)	98	91	95	103	100
Westmoreland, Kendal (Kent Terr.)	106	93	110	107	100
Bute (Pladda)	102	90	102	102	100
Argyll (Islay Rhinns)	100	90	99	105	100
Means for 11 Stations	101	94	103	104	100
Mean..... 11 Stations	101	94	103	104	100
,, ... 38 ,,	—	95	103	107	100
,, ... 132 ,,	—	—	103	106	100
General mean	101	95	103	106	100
Adopted	100	94	102	105	99

Some other results flow from this "adopted" set of values, *e. g.*—

In *British Rainfall* 1880, p. [127], I stated that nearly twenty (now nearly thirty) years ago I had shown (in the *British Association Report* 1862), that the mean rainfall over the British Isles for 1850-59 was 5 per cent. below the average, and that a recent investigation had given 7 per cent. as the amount of that deficiency.

The present investigation gives 6 per cent.

In *British Rainfall* 1872,p. 27, I showed that the fall during the decade 1860-9 was 1 or $1\frac{1}{2}$ per cent. above the mean.

The present investigation gives 2 per cent.

In *British Rainfall* 1880, p. [127], I stated that the fall in the decade 1870-79 had on the average been about 5 per cent. in excess.

The present investigation also gives 5 per cent.

It may therefore be regarded as probable that the result now obtained for 1880-89, viz. : a deficiency of 1 per cent. will not subsequently be shown to be incorrect.

ROTHERHAM EXPERIMENTAL RAIN GAUGES.

This interesting series continued in operation throughout 1890, under the supervision of Mr. Berry, the Engineer to the Corporation Water Works, on the bank of whose reservoir the gauges are erected. The values for the past year are generally in accord with those for previous years, but the differences between the sums of the daily entries and the totals by the gauges emptied only at the end of the month, are rather large, especially in position No. 5.

RAIN GAUGE EXPERIMENTS, ULLEY RESERVOIR, ROTHERHAM, 1890.

Lat. 53° 22′ 59″ N. Lon. 1° 19′ 9″ W. Altitude 184 ft.

Months.	Five Mouth Gauge. 5 ft. above ground.					Inclined Rotating Gauges. 5 ft. above ground.			
	Facing East.	Facing North.	Facing West.	Facing South.	Horizon Centre.	22½°	45°	67½°	90°
January	1·363	·433	1·326	2·717	2·508	3·606	4·702	4·934	4·402
February.....	·519	·960	·137	·039	·679	1·068	1·422	1·480	2·357
March	·531	1·730	·711	·672	1·272	1·991	2·798	3·290	2·292
April	·080	·265	·224	·094	·355	·420	·486	·480	·428
May.....	·557	1·853	·455	·251	2·398	3·017	3·460	3·193	2·611
June	·704	·218	·239	·682	1·738	1·842	1·940	1·614	1·390
July	·201	·396	·320	·452	1·894	1·933	1·946	1·498	1·000
August	1·052	·259	·591	·733	2·191	2·546	2·732	2·381	1·756
September ...	·310	·027	·140	·447	1·443	1·440	1·331	·979	·756
October	·052	·273	·525	·232	·777	·929	·994	·996	·843
November ..	1·603	1·645	·997	1·735	2·474	3·501	4·821	5·423	4·913
December ...	·702	·241	·006	·208	·363	·599	·890	·998	·827
Year	7·674	8·300	5·671	8·262	18·092	22892	27·522	27·266	23·575

Months.	Position No. 1. 1 ft. above ground.			Position No. 2. 5 ft. above ground.			Position No. 3. 5 ft. above ground.		
	Read Daily.	Read Mnthly.	Diff.	Read Daily.	Read Mnthly.	Diff.	Read Daily.	Read Mnthly.	Diff.
January	2·479	2·554	+·075	2·262	2·313	+·051	2·163	2·130	—·033
February.....	·796	·818	+·022	·684	·689	+·005	·655	·689	+·034
March	1·323	1·393	+·070	1·051	1·075	+·024	·972	1·051	+·079
April	·379	·419	+·040	·317	·342	+·025	·272	·331	+·059
May.....	2·387	2·539	+·152	2·251	2·270	+·019	2·178	2·265	+·087
June	1·800	1·842	+·042	1·626	1·685	+·059	1·553	1·612	+·059
July.....	2·002	2·015	+·013	1·821	1·826	+·005	1·784	1·744	—·040
August	2·262	2·209	—·053	2·081	2·109	+·028	1·963	2·106	+·143
September ...	1·454	1·417	—·037	1·338	1·400	+·062	1·319	1·339	+·020
October	·762	·820	+·058	·677	·719	+·042	·621	·700	+·079
November ...	2·430	2·439	+·009	1·832	1·962	+·130	1·725	1·820	+·095
December ..	·416	·404	—·012	·348	·383	+·035	·328	·340	+·012
Year	18·490	18·869	+·379	16·288	16·773	+·485	15·533	16·127	+·594

Months.	Position No. 4. 5 ft. above ground.			Position No. 5. 5 ft. above ground.			Position No. 6. 5 ft. above ground.		
	Read Daily.	Read Mnthly.	Diff.	Read Daily.	Read Mnthly.	Diff.	Read Daily.	Read Mnthly.	Diff.
January	2·129	2·210	+·081	2·130	2·180	+·050	2·206	2·214	+·008
February.....	·716	·717	+·001	·959	·741	—·218	·811	·734	—·077
March	1·102	1·045	—·057	1·291	1·071	—·220	1·207	1·193	—·014
April	·279	·315	+·036	·306	·319	+·013	·347	·319	—·028
May.....	2·158	2·209	+·051	2·385	2·545	+·160	2·477	(2·440)	(—·037)
June	1·493	1·614	+·121	1·501	1·643	+·142	1·630	1·602	—·028
July...	1·792	1·791	—·001	1·820	1·830	+·010	1·844	1·848	+·004
August	1·989	2·120	+·131	1·992	2·129	+·137	2·146	2·165	+·019
September ...	1·301	1·400	+·099	1·302	1·345	+·043	1·363	1·394	+·031
October	·615	·648	+·033	·655	·668	+·013	·659	·626	—·033
November ...	1·892	1·943	+·051	2·040	1·976	—·064	2·001	2·070	+·069
December ...	·329	·432	+·103	·414	·442	+·028	·402	·463	+·061
Year	15·795	16·444	+·649	16·795	16·889	+·094	17·093	(17·068)	—·025

RAINFALL AT THE ROYAL OBSERVATORY, GREENWICH

Lat., 51° 28′ 38″ N. Long., 0° 0′ 0″.

Communicated by W. H. M. CHRISTIE, ESQ., M.A., F.R.S.,
Astronomer Royal.

1890	No. of days on which rain fell.	MONTHLY AMOUNT OF RAIN COLLECTED IN EACH GAUGE.							
		Osler's Anemometer.		On roof of Octagon Room.	On roof of Magnetic House.	On roof of Photographic Thermometer Shed.	Gauges partly sunk in the ground.		
		Self-registering Gauge.	Second Gauge.						
Height above Ground.	...	50ft. 8in.	50ft. 8in.	38ft. 4in.	21ft. 6in.	10ft. 0in.	5in.	5in.	5in.
Height above Mean Sea Level.	...	205ft.	205ft.	193ft.	176ft.	165ft.	155ft.	155ft.	155ft.
		in.	in.	in.	in.	in.	in.	in.	in.
January	19	1·121	1·094	1·525	1·716	2·033	2·085	2·152	2·151
February.....	9	0·672	0·670	0·811	1·024	1·079	1·036	1·063	1·096
March	14	0·875	0·832	1·345	1·628	1·908	1·965	1·980	1·992
April.....	14	1·109	1·179	1·391	1·679	1·777	1·774	1·772	1·803
May.....	14	0·997	1·007	1·200	1·322	1·377	1·338	1·336	1·356
June.....	16	1·747	1·670	2·196	2·396	2·484	2·536	2·518	2·539
July.....	18	2·967	2·944	3·712	4·316	4·434	4·495	4·423	4·487
August	15	1·835	1·971	2·367	2·492	2·533	2·537	2·499	2·527
September	6	0·485	0·511	0·604	0·622	0·623	0·652	0·648	0·652
October	9	0·601	0·572	0·924	1·102	1·148	1·191	1·168	1·203
November	19	0·672	0·687	0·946	1·161	1·432	1·480	1·520	1·497
December	9	0·220	0·241	0·517	0·579	0·727	0·771	0·886	0·710
Sums.....	162	13·301	13·378	17·538	20·037	21·555	21·860	21·965	22·013
No. of Gauge ...	...	1	2	3	4	5	6	7	8

The monthly record terminates at midnight on the last day of the month.
A rainy day is considered to be one on which 0·005 in., or more, is collected in gauge No. 6.
Of the ground gauges 6, 7, and 8, No. 6 is taken as standard, No. 7 is the old monthly gauge, and No. 8 is a gauge added in 1881.

April 9, 1891.

WILLIAM ELLIS,
For the Astronomer Royal.

THE STAFF OF OBSERVERS.

It may be remembered that last year we had to record the largest addition to our staff for many years—a total gain of 299, which, deducting losses, gave a net gain of 118. It did not then occur to us that in that gain had to be included much of the result of our efforts towards raising the staff to a full strength of 3,000 for the decade commencing with January 1st, 1890. But that was evidently the case, because the rise this year, though considerable, is not so great.

It is rather curious that the number of new records is almost identical with that of those in the volume for 1889, 299 in that volume, 300 in this. But there is an unusually large number of records absent or imperfect, for which the so-called influenza is probably largely responsible. There are 232 absentees, a number which apparently has no precedent, and this prevents the net gains exceeding 68.

The total number of records quoted in this volume, as shown by the table on the next page, is 2,776, and we have besides imperfect returns from 198 stations, so that probably but for the prevalent sickness we should have even more nearly reached the 3,000 than has been the case.

Of noteworthy increases, we may call attention to three :—

In *North Lancashire* and the adjoining portion of *Westmoreland* an interesting group of stations has been organised by Mr. Stephen A. Marshall, of Skelwith Fold, Ambleside. This deals especially with that portion of the Lake district known as The Langdales.

In *Yorkshire* an important series of records has been received from the vicinity of Masham, a few miles S.E. of the Aysgarth district, in which, some years since, the Rev. F. W. Stow took much interest.

The third group will become much more prominent in our next volume, but even the beginning is good. We have long regretted that the returns from Ireland were neither sufficiently numerous nor well distributed. We are indebted to Major Somerset Maxwell for changing all this as regards county *Cavan* and

the surrounding district; we have five new stations, and if all that he has started continue perfect we shall have twenty-two returns from him next year. He appears to have organised his stations extremely well, and as far as we can at present judge, it seems the best piece of work ever done respecting the rainfall of Ireland.

A map such as we have more than once referred to in this section was prepared last year—a large one, about 6 ft. by 4 ft.—and was shown at the Exhibition of the Royal Meteorological Society; but it would evidently not be easy to reproduce it satisfactorily on a small scale, because over large portions of the country the stations are so well distributed that there would be no room to insert any names of places, and a mass of dots without names would convey little information.

Number of perfect rainfall records published in the volumes of British Rainfall for the undermentioned years:—

Years.	England.	Wales.	Scotland.	Ireland.	Gross Total.	Increase over previous year.
1860...	163	5	—	—	168	—
1861...	334	9	109	20	472	—
1871 .	1038	88	311	67	1504	—
1881...	1548	131	313	153	2145	31
1882...	1710	145	335	148	2338	193
1883...	1785	145	357	146	2433	95
1884...	1812	143	353	155	2463	30
1885...	1825	161	346	154	2486	23
1886...	1835	155	344	154	2488	2
1887...	1890	164	343	158	2555	67
1888...	1917	161	353	159	2590	35
1889...	2006	163	378	161	2708	118
1890...	2066	172	374	164	2776	68
Difference from 1888—						
Increase	60	9	—	3	68	
Decrease	—	—	4	—	—	

MIDDLESEX (52).

ABSENT RECORDS.

Staines—*Record imperfect.*
Isleworth Spring Grove—*Record unreliable.*
Westminster (Spring Gardens), S.W. (*2 gauges*) —*Record imperfect.*
Kensington (Edith Road), M.—*Record ceased.*
Childs Hill (Helenslea), N.W.—*Record unreliable.*
Upper Clapton (Warwick Road)—*Observer dead.*
Colney Hatch (Irish Corner).—*Record unreliable.*
Winchmore Hill (Chase Side)—*Observer moved.*

INSERTIONS.

Twickenham (Vale House)
London (Gloucester Place, W.)
Hackney (Richmond Road) (*2nd g.*)
Stanmore Observatory

SURREY (92).

Ewhurst Rectory—*Return imperfect.*
Red Hill (Beech House)—*Observer dead.*
Trevereux [Edenbridge]—*Record unreliable.*
Weybridge Heath (Bartropps)—*Record ceased.*
Esher (Sewage Works)—*Record unreliable.*
,, (West End)—*Record imperfect.*
Croydon (Dingwall Road)—*Observer moved.*
Chertsey (Burley Orchard)—*Record imperfect.*
New Malden Sewage Works.—*Record imperfect.*

Cranleigh (Winterfold)
Ewhurst (Heathside) (*2nd gauge*).
,, (Coneyhurst).
Brockham (North Lodge).
Farnham (Alverley Tower).
,, (Great Down, Seale).
Reigate Sewage Farm.
Redhill (Montpellier).
Leatherhead (Downside).
Chobham (*2nd gauge*).
Addington Hills.
Croydon (Limes Road).
,,
Addiscombe (Havelock Road).
Marden Park.
West Norwood.

KENT (109).

Dymchurch (New Hall)—*Record ceased.*
Benenden—*Record ceased.*
Ashford (Eastwell Rectory)—*Record ceased.*
Ramsgate (The Vale)—*Record ceased.*
Chatham—*Record imperfect.*
Bickley (The Pines)—*Not received.*

Appledore (Snargate).
Tenterden (Little Westwell).
Folkestone (Dover Road).
,, (Capel Lodge).
Gowdhurst Vicarage.
Ashford (Pluckley).
Maidstone (Linton Park).
,, (Lower Tovil).
Canterbury Sewage Works.
Farningham Hill.
Beckenham (Foxgrove Road).
Sidcup (Hatherley Road).
Forest Hill (The Nurseries).
,, (Barr Beacon).
Lewisham (Hither Green).

WEST SUSSEX (28).

Worthing Infirmary—*Record imperfect.*
Horsham (Leonardslee)—*Record ceased.*
,, (Wimblehurst)—*Record ceased.*
,, (Rusper Rectory)—*No reply.*
,, (,, Old Park)—*Observer moved.*

Worthing (Heene) (*2nd gauge*).
Walderton [Emsworth].
Cowfold (The Laurels).
Horsham (Bourne Hill).

EAST SUSSEX (54).

Brighton (W.W. Lewes Road)—*No reply.*
Hastings (Beauchamp, Hollington)—*R.ceased.*
Wivelsfield (Lyoth)—*No reply.*
Fletching—*Observer moved.*
Worth Rectory (*West Gauge*)—*Record ceased.*

Beachy Head (*2nd gauge.*)
Haywards Heath.
Buxted (Strawberry Hall).
Worth (South Hill).
East Grinstead.

HAMPSHIRE (76).

Bournemouth (Queen Anne Gardens)—*Record ceased.*
Alresford (Ropley)—*Observer dead.*

Totland Bay (Wilmington).
Bournemouth (Wellington House).
Portsmouth.
South Hayling.
Porchester (Noel Cottage).
Southampton (Netley, Lake House).
Alresford House.
Liphook (Bramshott Rectory).
Alton (Eagle's Nest).

BERKS (25).

Old Windsor (The Ham)—*Received too late for insertion.*
Reading (Portland Place)—*Gauge defective.*

Twyford (Hurst Grove).
Long Wittenham (Lovegrove's Cottage).

HERTS (44).

Bushey Heath—*No reply.*
Watford (Oaklands)—*Record imperfect.*
Hitchin (Fairfield)—*Record imperfect.*

Elstree (Aldenham House).
Watford (Kytes).
Hemel Hempstead (Apsley Mills).
Great Berkhampstead (Fairhill).
Hertford (Haileybury College).
Tring (Cowroast).
Harpenden (Rothamstead (3*rd g.*)
Welwyn Rectory.

BUCKS (16).

Great Marlow (Cromwell House)—*No reply.*
Aylesbury (Mentmore)—*Return unreliable.*

Slough (Upton) (2*nd gauge*).
Aylesbury (Waddesdon).

OXFORD (29).

Thame (Aston Rowant)—*Observer moved.*
Oxford (Rose Hill, Iffley)—*Gauge inaccurate.*
Banbury (Swalcliffe Vicarage)—*Rec. imperfect.*

Oxford (Headington Hill).
Bicester (Stratton Audley Park).

NORTHAMPTON (35).

Northampton (Preston Deanery)—*Rec. imp.*
Thrapstone (Woodford)—*Record ceased.*
Hazelbeach Hill—*Record imperfect.*

Holdenby Rectory.

HUNTS (5)

St. Neots (Tetworth Hall)—*Record ceased.*

BEDFORD (22).

Biggleswade—*Record ceased.*
Sandy Rectory—*Record imperfect.*
Potton—*Observer moved*

Ampthill (Maulden).

CAMBRIDGE (27).

Cambridge (Beech House)—*Record ceased.*
Ely (Littleport Vicarage)—*Record ceased.*
Wisbech (Coldham Hall, Elm)—*Record ceased.*
Trumpington (Gilmerton).
Cambridge (Fulbourne Pumping Station).

ESSEX (41).

Ingatestone (Coptfold Hall)—*Record ceased.*
Chelmsford (Great Baddow)—*Record ceased.*
,, (Broomfield)—*No reply.*
Dunmow (High Roding)—*Record ceased.*
Colchester—*Record ceased.*
Dunmow (Saling Grove)—*Record imperfect.*
Saffron Walden—*Record ceased.*
Southend.
Romford (Bulvan).
Walthamstow (Forest Road).
Woodford (Brancepeth House).
Loughton (High Beech).
Waltham Abbey.
Chelmsford.
West Mersea (Rosebank).
Colchester (Hill House, Lexden) (*2 gauges*).
Braintree (Bocking, Fennes).

SUFFOLK (41).

Ipswich (Belstead Hall)—*Observations irregular.*
Stradbroke Vicarage—*No observations.*
Lowestoft (Gisleham)—*Record unreliable.*
Felixstowe.
Ipswich (Woolverstone Park).
,, (Clare Lodge).
Woodbridge (Co. Asylum, Melton).
Lavenham (Preston Rectory).
Bury St. Edmunds (Westley) (*2nd g.*)
Beccles (Sotterley Hall Gardens).
Lowestoft (Kirkley).

NORFOLK (60).

Downham Market (W. Dereham)—*Record ceased.*
,, (Wimbotsham)—*Not received.*
East Dereham—*Record imperfect.*
Drayton—*Record imperfect.*
Acle (Oby)—*Record ceased.*
Wymondham.
Acle.
Swaffham (*2nd gauge*).
,,
South Walsham.
Field Dalling.

WILTS (54).

Salisbury—*Record ceased.*
Ludgershall (Chute)—*Not received.*
Market Lavington—*Record imperfect.*
Bradford (Muirhill, Winsley)—*Observer moved*
Marlborough (Preshute House).

DORSET (31).

Weymouth—*Record imperfect.*
Little Bredy—*Record ceased.*
Poole Road [Bournemouth]—*Record imperfect.*
Portland (The Manse).
Swanage (Langton Matravers).
Portisham.
Poole.
,, (Hamworthy).
Blandford (Whatcombe) (*2nd gauge*)
Sturminster Newton (Riverside).

DEVON (91).

Teignmouth(LowerReservoir)—*Gauge leaking.*
Ashburton (Cator Court)—*Record ceased.*
Dawlish—*Record ceased.*
Exeter (St. Leonard's Road)—*Record ceased.*
Axminster (Furzebrook)—*Record unreliable.*
West Buckland Rectory——*Observer moved.*
Lynmouth (Glenthorne)—*Record imperfect.*

Salcombe.
Bolt Tail.
Plympton (Hemerdon) (2 *gauges*).
Kingskerswell (Fluder).
Ashburton (Holne Vic.) (2*nd gauge*).
Teignmouth (Bonnicliff).
Kenton (Southtown House).
Exeter.
South Molton.
Bideford (St. Helen's, Northam).

CORNWALL (34).

Truro (Porthgwidden)—*Observer dead.*
St. Germans (Catchfrench).—*Record imperfect.*

Liskeard (Herodsfoot Vicarage).
Callington(HingstonDown)((2*nd g.*)

SOMERSET (52).

Taunton (Lydeard House)—*Record ceased.*
Wiveliscombe (Willett House)—*Observer ill.*
Clevedon (Channel View)—*Record ceased.*

Bath (Charlcombe).
Batheaston (2*nd gauge*).

GLOUCESTER (66).

Clifton (Clifton College)—*Record imperfect.*
Wirewoods Green [Chepstow]—*No reply.*

Almondbury.
Fairford (Horcott).
Westbury-on-Severn.
Northleach (Sherborne).
Gloucester (Wotton Hill).
,, (Wotton Asylum).
Cheltenham (Selsley Lawn).
Moreton-in-Marsh(Longboro')(2*nd g.*)

HEREFORD (26).

Ross (Pontshill)—*Record unreliable.*
Hereford(Thinghill,Withington)—*Rec. ceased.*
Wigmore—*Return not received.*

Ross (Perrystone Court).
Much Marcle Vicarage.
Leominster (Farm).
Kington (Eywood).

SHROPSHIRE (29).

Preston Gubbalds—*Record imperfect.*
Whitchurch (Green End)—*No reply.*

STAFFORD (35).

Handsworth—*Record ceased.*
Leek (Rudyard)—*Record imperfect.*

Wolverhampton (Patshull).

WORCESTER (31).

Worcester (St. George's Square)—*G. moved.*
,, (Water Works)—*Record imperfect.*
Stourport (Areley Court)—*No reply.*
Stourbridge (Longlands)—*Gauge leaking.*
Acocks Green [Birmingham]—*No reply.*
Tenbury (Stamford Rectory).
Bromsgrove (Stoke Refor.)(*2nd g.*)
Kidderminster (Prospect Hill).
Moseley [Birmingham].

WARWICK (26).

Warwick (Priory Gardens)—*Observer moved.*
Nuneaton (Wesley House)—*Record imperfect.*
Atherstone—*Record imperfect.*
Alcester (Ragley Hall).
,, (Ragley Gardens).
Bedworth Cemetery.

LEICESTER (23).

Swithland (Roecliffe)—*Record ceased.*
Harston [Grantham]—*Record ceased.*
Loughborough (Nan Panton Res.) *2nd gauge.*

RUTLAND (8).

LINCOLN (65).

Stamford (Barn Hill House)—*Record ceased.*
Skegness—*Gauge moved.*
Lincoln (Tentercroft Street)—*No reply.*
Wragby (Hatton Rectory)—*No reply.*
Grantham (Denton Manor).
Wainfleet (Ivy House).
Lincoln (Moorlands Skellingthorpe).
Brattleby.
Barton-on-Humber (Saxby Rec.)

NOTTS (29).

Nott'ngh'm(WoodthorpeGrange)—*R.unreliable*
Eastwood Colliery (*2nd gauge*)—*Record ceased.*
Southwell (Oxton)—*No reply.*
Newark (Kirkgate)—*Observer moved.*
Mansfield (Market Place)—*Gauge moved.*
Nottingham (Mapperley Hall).
Worksop (Osberton Gardens).

DERBY (36).

Derby (Midland Railway)—*Gauge moved.*
,, (Duffield)—*Record ceased.*
Matlock (Willersley Gardens)—*No reply.*
Matlock (The Gables).
Chesterfield (Tapton Grove).
Norton [Sheffield].
Hathersage (Bamford).

CHESHIRE (63).

Crewe (Wistaston Road)—*Record imperfect.*
Winsford (Meadowbank)—*No reply.*
Winslow (Southside) (*2nd g.*)—*Record ceased.*
Altrincham (Dunham Lawn)—*Record ceased.*
Chester (Northgate Station).
Northwich.
Macclesfield (Swanscoe Park).
West Kirby (Greenfield).
Thelwall (Millington Ho.) (*2nd g.*)
Altrincham (Barrington House).
New Brighton (Stanley Rock).

LANCASHIRE (153).

Warrington (Cemetery)—*Not received.*
Eccles (Worsley Hall)—*Record doubtful.*
Manchester (Higher Broughton)—*No reply.*
Maghull—*Record ceased.*
Ormskirk (Aughton Springs) (*2nd gauge.*)—*Record ceased.*
Bolton-le-Moors (Halliwell New Road)—*Record doubtful.*
Rochdale (Nayden Dane)—*No reply.*
Over Darwen (Daisy Green)—*Return doubtful.*
Accrington (Washington House)—*Not received.*
Quernmore (Brow Top)—*Record imperfect.*
Barrow-in-Furness (Cavendish Park)-*Rec. ceased*
Duddon Valley (Cockley Beck)—*Record ceased.*
Aigburth (Holmfield).
Warrington (Central Station).
Liverpool (Huskisson Station).
Heaton Moor [Stockport] (*2nd g.*).
Walton (Breeze Hill) (*2nd gauge.*).
Manchester (Lady Barn, Fallowfield).
,, (Alexandra Park).
,, (,,).
,, (Newton Heath).
Bolton-le-Moors (Ash Lawn, Heaton)
Rochdale (Deeplish Hill).
,, (Birkdale) (*2nd gauge*).
Southport (Lord Street Station).
Lancaster (Marton Street Yard).
Wray Vicarage.
Hawkshead (Black Fell).
Skelwith Fold [Ambleside] (*2 gauges*).

YORKSHIRE.

WEST RIDING (208).

Doncaster Campsmount)—*No reply.*
Bradford (Brown Royd Res)—*Record unreliable.*
Thornton in Craven—*Record ceased.*
Slaidburn (Middle Knoll)—*Record unreliable.*
Sedbergh (Brig Flatts)—*Record unreliable.*
Sheffield (Tylecote Ranmoor) (*2nd g.*).
Holmbridge (Holme Styes).
,, (Boshaw Whams).
,, (Bilberry Reservoir).
Batley (Staincliffe Reservoir).
Harrogate (Skipton Road).
Pateley Moor (Smaden Head).
Dallow Moor (High Skeldon).
,, (Harper Hill).
Kirkby Malzeard (Drovers Inn).
,, (Hawset).
,, (Hambleton Hill).
,, (Bagwith Brae).
,, (Stone and Ears Wham).
Masham Moor (Benjy Guide).
,, (W. Somerside).
,, (High Sour Mire).
,, (Leighton).
,, (Low Houses).

EAST RIDING (24).

Hull (Westcott Street)—*No reply.*
Driffield (York Road)—*Record ceased.*
Hummanby (Foxholes Rectory)—*No reply.*
Driffield (Waterworks).
Thixendale.

NORTH RIDING (40).

Aysgarth (Carperby)—*No observations.*
Northallerton(TheLodge)—*Observations ceased*
Ampleforth College.
Aysgarth Vicarage (2*nd gauge*).
Seamer (Irton).
Scarborough (Osgodby).
Hawes (Beckside, Lunds).
Guisborough(Lockwood Beck Resr.)

DURHAM (35).

Darlington (Brinkburn)—*Record imperfect.*
Shotley Bridge—*Record imperfect.*
Chester-le-Street (Birtley)—*Record ceased.*
Darlington (Elcott, Hurworth).
Bishop Auckland (Mt. Pleasant).
,, ,, (The Castle).
Sunderland (W. Hendon Ho.), No. 4
,, (Fever Hospital).

NORTHUMBERLAND (43).

Newcastle (Clifton Road)(2*nd g.*)—*Not observed.*
,, (Osborne Road)—*Observer dead.*
Cramlington—*Record ceased.*
Morpeth (Bothalhaugh Lawn) (2 *gauges*)—*No observations.*
Alnwick (Belle Vue House)—*Observer dead.*
Ovingham (W. Tyne Colliery).
Newcastle (Portland Road).
Wooler (Milfield Hill).

CUMBERLAND (72).

Arlecdon (Kirklandhow)—*Record ceased.*
Whitehaven (Gilgarron Hall)—*Observer moved.*
Threlkeld (Settra)—*Record imperfect.*
,, (Blencathra)—*Record imperfect.*
Skiddaw Forest (Shepherds Lodge)—*Record imp.*
Penrith (Culgaith Vic.) *lawn*—*Record imp.*
Millom (Leyfield).
Duddon Hall.
Seascale (Whinthwaite).
Nether Wasdale Vicarage.
Keswick (The Beeches) (2 *gauges*).
,, (Bassenfell).
Bassenthwaite (Mire House).
Penrith (Nunwick Hall).
Brampton (Denton Ho.)(2*nd gauge.*)

WESTMORELAND (36).

Kendal (St. George's Vic.)—*No reply.*
Crosby Ravensworth (Reagill)—*Record ceased.*
Ullswater (Swarth Fell)—*Record imperfect.*
Little Langdale (Fell Foot).
Dungeon Ghyll (2 *gauges*).
Elterwater.
Fairfield.

WALES.

MONMOUTH (21).

Usk (Porthycarne)—*Record ceased.*
Ebbw Vale (The Firs)—*No reply.*
Newport (Crindau House).
Usk (Glen-hailog).
Llanvihangel Court (2 *gauges*).

GLAMORGAN (30).

	Gower (Pilton Green).
	,, (Penmaen).
	Pontypridd (The Reservoir).
	Merthyr Tydfil (Plymouth works)

CARMARTHEN (6).

	Llanelly (Old Market Place).

PEMBROKE (8).

CARDIGAN (5).

BRECKNOCK (17).

Nanthir Reservoir [Aberdare] (*2nd gauge*)—*Return not received.*	Taff Fechan (Pentwyn Res.) (2 *gauges*).
Builth Vicarage—*Record ceased.*	,, ,, (Neuadd Res.) (2 *gauges*).

RADNOR (7).

Glasbury (Woodlands)—*No reply.*	Presteigne (Clatterbrune)

MONTGOMERY (14).

Dylife Lead Mine—*Record ceased.*	Welshpool (Park Lane).
	Meifod (Tanyfron).
	Lake Vyrnwy.

FLINT (6).

DENBIGH (17).

Ruabon (Belan)—*Record ceased.*	Dolben [St. Asaph].
Ruthin (Brynmair)—*Observer left.*	Trefnant (Maes Elwy).
Nannerch (Penbedw Hall)—*Record unreliable.*	

MERIONETH (6).

Trawsfynydd—*No reply.*	

CARNARVON (14).

Port Madoc—*Record ceased.*	Clynnog.
	Pen-y-gwryd Hotel.
	Llanberis (Glyn Padarn)

ANGLESEA (3).

ISLE OF MAN (11).

Peel—*No observations.*	St. Mark's.
Ramsey—*No observations.*	

ISLES OF SCILLY (2).

JERSEY (2).

GUERNSEY (3).

Villa Carey (*2nd gauge*)—*Return not received.*

SCOTLAND.

WIGTON (6).

KIRCUDBRIGHT (14).

Kirkcudbright (Senwick) (*2 gauges*).
Castle Douglas (Slogarie).
Irongray (Drum Park) (*2nd gauge*).

DUMFRIES (12).

Ruthwell (Broadgate)—*Observer moved.*
Dumfries (Crichton Inst.)—*Record imperfect.*

Thornhill (Capenoch Gardens).

ROXBURGH (11).

Kelso (Broomlands).
Melrose (Asylum) (*2nd gauge*).

SELKIRK (2).

PEEBLES (7).

Peebles (Stobo Castle)—*Record imperfect.*

BERWICK (5).

Coldstream (Milne Graden)—*Gauge out of order*

HADDINGTON (4).

East Linton—*Observer dead.*
North Berwick (Fidra)—*Record imperfect.*

EDINBURGH (29).

Dalkeith—*Record imperfect.*

Pentland Hills (Harbour Hill).
Edinburgh (Royal Observatory).

LINLITHGOW (5).

Linlithgow (Rockville) (*2nd gauge*).

LANARK (10).

Wiston School—*No reply.*
Carmichael House—*Record imperfect.*
Cambuslang (Bushy Hill)——*Record ceased.*

AYR (18).

Old Cumnock (Glaisnock)—*Observer moved.*
Kilmarnock (North Craig)—*Observer moved.*
Dalry (Carsehead)—*No reply.*
New Cumnock (Knockencorsan).
Old Cumnock.

RENFREW (25).

Paisley (Ferguslie House)—*No reply.*
Garvocks—*Return not received.*
Darndaff Moor—*Return not received.*
Paisley (Crookston).
Creuch Hill.

DUMBARTON (5).

Helensburgh (Rosemount)—*Gauge moved.*
,, (Ferniegair)—*Record imperfect.*

STIRLING (7).

St. Ninians (Woodlands)—*No reply.*

BUTE (5).

Rothesay (Mount Stuart)—*Record ceased.*
Kingarth (The Plan).

ARGYLL, MAINLAND (19).

Loch Etive (Ardchattan Priory)—*No observations.*
Lochgilphead (Poltalloch) (*2nd g.*)
Inverary (Newtown).
Morvern (Drimnin).
Ardgour House.

ARGYLL, INSULAR. (21).

Tyree (Hynish)—*Record imperfect.*
Sanda.
Cantire (Skipness Castle).
Coll (Arnagour Hotel).

CLACKMANNAN (4).

Alloa (Mar Street).
Tillicoultry (Tillicoultry Ho.), No. 2.

KINROSS (2).

FIFE (11).

St. Andrews (Pilmour Cottage)—*Rec. ceased.* | Tayport.

PERTH (27).

Culross (Tulliallan F. C. Manse)—*G. broken by fst.*
Dunkeld Station H.R.S.—*Record imperfect.*

FORFAR (22).

Arbroath (Waterworks) M.—*Return not received.* | Buddonness.
,, (Waterworks Tower) M. (*2nd gauge*) —*Return not received.*
,, (Cemetery)—*Record imperfect.*

KINCARDINE (4).

ABERDEEN (19).

| Aberdeen.

BANFF (4).

ELGIN OR MORAY (7).

| Craigellachie (Wester Elchies Sch.) (*2nd gauge*).

NAIRN (3).

| Nairn (Achareidh).

WEST ROSS (11).

Lochbroom (Loch Drome)—*Record unreliable.*
,, —*Record ceased.*

EAST ROSS (7).

Achonachie Lodge [Beauly]—*No reply.* | Contin (Kinnahaird).
Dingwall H.R.S.—*No reply.* | Fearn (Geanies Mains.
Fearn (Arboll)—*Observer moved.*

WEST INVERNESS (14).

EAST INVERNESS (6).

Inverness (H.R.S.)—*Record ceased.*

SUTHERLAND (9).

Assynt (Achumore)—*Record ceased.*

CAITHNESS (7).

ORKNEY (9).

Pomona (Swanbister)—*Record ceased.* | Auskerry.

SHETLAND (3).

IRELAND.

CORK (7).

Cork (Park View)—*Record ceased.*
Ballyhooly (Wood Cottage)—*Record imperfect.* | Mallow (Old Dromore).

KERRY (8).

Kenmare (Inishfea)—*No reply.*
Mangerton—*Gauge leaking.*
Killarney (Asylum)—*Record imperfect.* | Darrynane Abbey.
Valencia (Observatory).

WATERFORD (6).

| Waterford (Newtown).

TIPPERARY (6).

Nenagh (The Lodge)—*Record ceased.* | Nenagh (Castle Lough).

LIMERICK (5).

| Newcastle West (Churchtown).

CLARE (5).

O'Briensbridge (Ross)—*Record imperfect.* |

WEXFORD (6).

| Oulart (Wells).

KILKENNY (5).

WICKLOW (2).

Greystones (Knockeevin)—*Record ceased.* |

CARLOW (3).

| Borris.

QUEEN'S COUNTY (1).

KING'S COUNTY (2).

KILDARE (1).

DUBLIN (9).

Glenesmool Lodge—*Received too late.*
,, (Rathmines W.W.)—*No reply.*
Dalkey (Bellevue Park).

MEATH (3)

Trim—*No reply.*
Kells (Headfort).

WESTMEATH (3).

Street [Edgeworthstown].

LOUTH (6).

LONGFORD (1).

GALWAY (11).

Shannon Grove [Banagher].
Tuam (Castle Hacket).

ROSCOMMON (1).

MAYO (4).

Westport (Old Head House)—*Record ceased.*

SLIGO (4).

LEITRIM (1).

CAVAN (2).

FERMANAGH (2).

MONAGHAN (3).

Dartrey [Cootehill].
Castleblaney.
Glaslough House.

ARMAGH (3).

DOWN (11).

Holywood Waterworks—*No reply.*

ANTRIM (19).

Lisburn—*No reply.*
Belfast (Divis mountain)—***Record ceased.***
Ballyclare – *No reply.*
Carrickfergus (Dorisland).
Ballymoney (Balnamore).
Cushendun (Agolagh).

LONDONDERRY (7).

Londonderry (Knockan)—***Observer dead.***

TYRONE (8).

Sixmilecross Rectory.

DONEGAL (9).

OBITUARY.

THE list of our losses is shorter than even last year, which was itself much briefer than usual.

We have this year—as the * indicates—lost one of those who contributed to our leaflet respecting 1860, but twelve out of the original little band are still contributing records.

The contributors whom we have lost in the past year, and each of whose records covered at least a quarter of a century, are :—

Rev. W. Heberden	37 years.	D. Milne Home, Esq....	29 years.
N. Whitley, Esq.....	33 ,,	Sir J. W. Bazalgette...	26 ,,
R. Spence, Esq.	31 ,,	Rev. A. Rawson..... ...	25 ,,

As bearing upon the longevity of rainfall observers, although in the majority of cases I am not aware of the age at death, I do know that the following exceeded 80 years :—

Rev. W. Heberden.....	86 years.
D. Milne Home, Esq.	85 ,,
Rev. Canon Philpotts	84 ,,
P. Carmichael, Esq.	82 ,,
N. Whitley, Esq.	81 ,,

In the volume for 1889 there were eight above 80, five above 85, and two above 90.

Mr. Heberden was a descendant of Dr. W. Heberden, F.R.S., who was the first to prove the decrease of the rainfall collectable at considerable heights above the ground, which he did in 1766 by erecting a gauge on the top of Westminster Abbey, and showing that while a gauge on the ground collected 22·61 in., the one on the top of the Abbey collected only 12·10 in.

Mr. Milne Home was a warm supporter, if not the founder, of the Scottish Meteorological Society.

Mr. Whitley was well known, especially in the west of England, as the author of several papers upon Meteorology, published in the Journal of the Royal Agricultural Society and elsewhere.

OBSERVERS DECEASED TO JULY, 1891.	PERIOD OF OBSERVATION. DATE.	Perfect Yearly Records
Alford, Rev. C., Westbury, Wells, Somerset	C 1887 imp -90 T	3
Ballantine, Mr. J., Old Cumnock, Ayr	1870-90 T	21
Barrington, R., Esq., Beech Ho., Redhill, Surrey	C 1884 imp -90 imp T	5
Bazalgette, Sir J. W., C.E., Metropolitan Board of Works	1863 -88 C	26
	Various.	
Bradley, J., Esq., Fylde Water Co., Kirkham	C 1869 imp -89 C	20
Callender, Rev. H. S., Brathay, Ambleside	C 1873-85 T	12
Carmichael, P., Esq., Arthurstone, Meigle, Perth	1872-90	19
Cheere, Rev. E., Papworth Hall, St. Ives, Hunts	1884-90 T	7
Fortescue, Col., Stevenstone, Co. Louth	1874-89 C	16
Hayward, W., Esq., Upper Clapton, Middlesex	1881-89 T	8
Heberden, Rev. W., Broadhembury, Honiton	C 1837-74 imp T	37
Home, D. Milne, Esq., Milne Graden, Berwick	C 1856-89	29
Horn, T., Esq., Crimplesham, Downham Market	C 1884 imp- 89 C	5
Horsley, J. J., Esq., Belle Vue, Alnwick, Nrthmbl'd.	1886-90 imp T	4
Howes, Rev. Prebendary, Exford, Somerset	C 1874 imp -90 T	16
Hurst, T. G., Esq., Lauder Grange, Corbdg.-on-Tyne / Osborne Rd., Newcastle-on-Tyne	1874-83 T / C 1884-89 T	16
Lucas, Rev. R. G., Mulbarton, Norwich	1873-89 imp T	14
May, Rev. H. T., South Petherwin, Launceston	C 1873 imp -90 T	17
Merrifield, J. Esq., LL.D. — Navigation School, Hobart Terrace, Plymouth	C 1869-86 T / C 1887-90	22
Muirhead, Dr. H., Bushy Hill, Cambuslang, Lanarkshr.	C 1868 imp -89 T	21
Neill, W., Esq., Town Moor, Newcastle-on-Tyne	C 1868-89 C	22
Ormerod, G. W., Esq., Broookbank / Woodway ... Teignmouth	C 1871-78 imp T ... / C 1878 imp -90 T...	19
Philpotts, Rev. Canon, Porthgwidden, Truro	1882-89	8
Phipps, P., Esq., Towcester, Northampton	C 1875-90 C	16
Rawson, Rev. A., Bromley Common, Kent / Fallbarrow, Windermere	C 1865-82 imp T ... / C 1883-90	25
Sawyer, F. E., Esq., Buckingham Place, Brighton	C 1869-86 imp T	17
Smith, Cecil, Esq., Lydeard Ho., Taunton, Somerset	C 1871 imp -90 imp T	16
*Spence, R., Esq., Rosella Place, N. Shields	1860-90 T	31
Stevenson, Rev. H. F., Knockan, Londonderry	C 1876-89 T	14
Strangways, Capt., R.N., Dawlish, Devon	C 1879-89 T	11
Waring, T., Esq., C.E., Town Hall, East Moors, Cardiff	C 1866-70 imp T ... / 1878-84 T	9
Whitley, Nicholas, Esq., Penarth, Truro	C 1857 imp -90	33
Wilbraham, H., Esq., Oldhead Ho., Westport, Co. Mayo	C 1877-89 T	13
Wingfield, Col., Onslow Hall, Shrewsbury	C 1879 imp -90	11
Woodhouse, Rev. T., Ropley, Alresford, Hants	1885-89 T	5
Yeoman, J., Esq., Osmotherley, Northallerton	1870-89 C	20

NOTE.—C indicates commencement of record and also its continuation, T its termination. No records are quoted unless they are perfect, and copied in our MS. volumes.

RAINFALL AND METEOROLOGY

OF

1890.

SYMBOLS EMPLOYED.

H.R.S. . .	Highland Railway Station.
H. . . .	Hail.
L. . . .	Lightning.
R. . . .	Rain.
S. . . .	Snow.
T. . . .	Thunder.
TS. . . .	Thunderstorm.
TSS. . .	Thunderstorms.

ON THE METEOROLOGY OF 1890.

WITH NOTES ON SOME OF THE PRINCIPAL PHENOMENA.

[These Notes should be read in conjunction with those on Heavy Rains in 1890.]

JANUARY.

1st—3rd.—*Broxbourne* (III). Fog.

2nd—*Oxford, Magdalen College* (III). Thick fog.

3rd—*Cheltenham* (VI). Skating.

4th—*Kilkishen* (XX). H, T and L.—*Hurdlestown* (XX). Severe S.W. gale at night, with a severe T and H storm at 5.15 a.m. on 5th. The L was most vivid, and the H stones very large, as numbers which fell down the chimneys remained on the floors, and at 11.30 a.m. were still larger than large peas. Seventy panes of glass in the Church at Kilbane were broken by the H.—*Miltown Malbay* (XX). S.W. gale with T, L and H.—*Galway, Queen's College* (XXII). Gale with heavy squalls, T and L.

4th and 5th.—*Derry Castle* (XX). T and L.

5th—*Hutton Roof* (X). Gale and L.—*Rhiwbryfdir* (XI). Stormy with L and T.—*Melrose, Abbey Gate* (XII). T and L.—*The Hangingshaw* (XIII). T and H.—*Edinburgh, Blacket Place* (XIII). Strong S.W. gale and L.—*Stronvar* (XVI). T, L and H showers at 3 p.m.—*Coolkelure* (XX). T and L.—*Darrynane Abbey* (XX). Very heavy gale, and tremendous sea.—*Hurdlestown* (XX). T, L and H in evening.—*Miltown Malbay* (XX). L and H.—*Galway, Queen's College* (XXII). Heavy squalls of H and R, with much L and T.—*Carrablagh* (XXIII). Violent gale at night with T and L.

5th and 6th.—*Northampton* (III). S.W. gale.

6th.—*Hutton Roof* (X). Heavy R, 1·34 in. causing floods.—*Glasgow, Queen's Park* (XIV). T and L.—*Coolkelure* (XX). Heavy S.W. gale, with 1·09 in. of R.

12th.—*Douglas, Victoria Road* (XI). Whole gale, with terrific squalls, S.W. to N.W.

14th.—*Ben Nevis* (XVIII). Very heavy R, 3·88 in., of which 3·31 in. fell in 7 hours.

16th—19th.—*Miltown Malbay* (XX). Squally, with T, L and H.

17th.—*Pendock Rectory* (VI). T and H.—*Coolkelure* (XX). Much T, L, H and R at 3 p.m., followed by a violent S.E. gale.

18th.—*Diss* (IV). Heavy gale from S.W.—*Ashburton, Druid* (V). Gale at night with L.—*Melmerby* (X). T, L and H.—*Llanfrechfa Grange* (XI). Heavy S.W. gale at night, with L.—*Llanwrtyd Wells* (XI). T, L, H and heavy R, 1·00 in.—*New Galloway, Glenlee* (XII). Heavy R and L.—*Glenaladale* (XVIII). Very stormy from W.S.W.—*Buncrana* (XXIII). Very severe gale with L.—*Carrablagh* (XXIII). Violent gale, with T and L.

18th and 19th.—*Maisemore Lock* (VI). TSS.

18th—20th.—*Hutton Roof* (X). L and H each day. *New Barnsley* (XXIII). Strong gales.

18th—22nd.—*Mullingar, Belvedere* (XXI). S daily.

19th.—*Bloxham Grove* (III). T and L.—*Ashburton, Druid* (V). L and H.—*Stowell Rectory* (V). TS.—*Gloucester Asylum* (VI). T, L, R, and H between 4 a.m. and 6 a.m., T and L again at 2.45 p.m.—*Cheltenham* (VI). TS.—*Ross, The Graig* (VI). Showers of soft H.—*Pendock Rectory* (VI). T, L and H.—*Birkdale* (VIII). Severe S.W. gale.—*Fermoy Gas Works* (XX). S on the ground.—*Darrynane Abbey* (XX). Very heavy gale and tremendous sea.—*Derry Castle* (XX). T, L and H.—*Galway, Queen's College* (XXII). Great gale with T and L.

19th—20th.—*Llanwrtyd Wells* (XI). Showers of S and R.—*Athlone, Twyford* (XXI). S.

19th—22nd.—*Gorebridge, Middleton* (XIII). S daily.—*Lauderdale* (XXII). S daily.

20th.—*Teignmouth, Woodway* (V). H shower at 2 p.m., the stones disc shaped and about $\frac{3}{8}$ inch in diameter; L in the evening.—*Knutsford* (VIII). T at 9 p.m.—*Seathwaite Vicarage* (VIII). T and H at night.—*Llandovery* (XI). H and T.—*Castle Malgwyn* (XI). H and sleet.—*Stronvar* (XVI). Ten and a-half inches of S.—*Hurdlestown* (XX). Ground white with S.

20th and 21st.—*Abergwessin Vic.* (XI). H, S and sleet.—*Dunkeld, H.R.S.*, (XVI). S.

20th—23rd.—*Uldale Rectory* (X). S daily.

21st.—*St. John's* [*Devonport*] (V). Heavy W.S.W. gale with H and R.—*Castle Malgwyn* (XI). Very wet, with T and L. R 1·43 in.—*Douglas, Victoria Road* (XI). S.W. gale with torrents of R and H at night, and vivid L and abnormally loud T at 2 a.m. on 22nd.

21st—23rd.—*Woodlawn* (XXII). Snow.

22nd.—*Plymouth, Hobart Terrace* (V). TS with heavy H.—

Llanfrechfa Grange (XI). Heavy gale at night, and T and L at 5 a.m. on 23rd.—*Llanwrtyd Wells* (XI). Heavy showers of H and R.—*Strathconan, Dalbreck* (XVIII). S 4 inches deep.—*Castle Lough* (XX). S.

22nd and 23rd.—*Knaresborough, Farnham* (IX). 4 inches of S.

23rd.—Considerable floods in Cheshire, especially in the valley of the Dee.—*Emsworth, Redlands* (II). Violent W. gale.—*Berkhamsted* (III). Gale from W.N.W., the strongest wind since March 11th, 1888.—*Hazelbury Bryan* (V). T and L, 7 to 8 a.m.

24th.—*Ashburton, Druid* (V). TS.—*Lawderdale* (XXII). Hurricane from W.

25th.—Heavy flood in Swaledale, a new bridge at Gunnerside washed away and others damaged; cattle, sheep, and large trees carried down the stream.—*Alderbury* (V). Great gale.—*Glenaladale* (XVIII). Heavy S.W. gale.—*New Barnsley* (XXIII). Great gale, similar to that of Jan. 23rd, 1884.—*Buncrana* (XXIII). Violent gale and high tide.

25th and 26th.—*Kensington, Edith Road* (I). Furious S.W. gale.—*Elvaston* (VII). Strong S.W. gale, with heavy R, followed by a flood on River Derwent on 27th.

26th.—*Emsworth, Redlands* (II). Violent W.S.W. gale.—*Pitsford Sedgebrook* (III). Violent wind and heavy fall of S.—*Diss* (IV). S.W. gale all day, very heavy at night.—*Stainby Rectory* (VII). Heavy gale at night.—*Nottingham, Beeston Fields* (VII). S.W. gale and ·95 in. of R.—*Meltham, Harewood Lodge* (IX). Very severe S.W. gale from noon till midnight, with torrents of R, 1·96 in.—*Boston Spa* (IX). Very severe gale, part of the roof of Congregational Church blown off during morning service.—*Rhayader, Nantgwillt* (XI). Heavy gale and 2·00 in. of R.—*Glenaladale* (XVIII). S on hills.—*Coolkelure* (XX). W.S.W. gale and 1·19 in. of R.—*Darrynane Abbey* (XX). Very strong S.W. gale and tremendous sea.

26th and 27th.—*St. John's* [*Devonport*] (V). Heavy gale at night, with much R.—*Bedworth Cemetery* (VI). Sleet and S.

27th.—Floods prevalent near *Ruabon* (the Dee being reported higher than for 25 years) *Nottingham, Tamworth and Manchester.*—*Coventry, Coundon* (VI). S yielding ·25 in.—*Carno, Tybrith* (XI). S yielding ·58 in.—*Rhiwbryfdir* (XI). Six inches of S.—*Miltown Malbay* (XX). S yielding ·34 in.

27th and 28th.—*Pitsford, Sedgebrook* (III). S.

28th.—*Bloxham Grove* (III). S 5 inches deep.—*Diss* (IV). Heavy

S from N.E., yielding ·50 in.—*Ross, The Graig* (VI). Great flood on the Wye, nearly 12 ft. 6 in.—*Ketton Hall* (VII). S.—*Mansfield* (VII). S.—*Knutsford* (VIII). S all the morning.—*Birkdale* (VIII). S in morning, melted by mid-day.

28th—Feb. 14th—*Minehead, Blair* (V). Absolute drought.

29th.—A very fine series of complex halos was seen over a large portion of England between 1 and 3.30 p.m., (See *Meteorological Magazine*, 1890, p. 1.)—*Bloxham Grove* (III). Halos and parhelia about 3 p.m.—*Ross, The Graig* (VI). Mock sun in afternoon.—*Pendock Rectory* (VI). Solar halo and parhelia.—*Mansfield* (VII). Mock sun.—*Birkdale* (VIII). Fine solar halos and parhelia during afternoon.—*Driffield* (IX). Solar halos and parhelia.—*Llanfrechfa Grange* (XI). Solar halo and parhelia at 2.30 p.m.

30th—Feb. 14th.—*Ilminster, Ilton Vicarage* (V). Absolute drought.

31st—Feb. 13th.—*Boston Spa* (IX). Absolute drought (14 days), without frost.

FEBRUARY.

1st.—*Rendlesham Hall* (IV). Wet fog.—*Darrynane* (XX). Fuchsias in flower.

6th.—*Ben Nevis Observatory* (XVIII). Triple fog bow.

7th—14th.—*Douglas* (XI). Strong E. and N.E. gales, very cold.

10th.—*Meltham, Harewood Lodge* (IX). Glazed frost.

12th.—*Melrose, Abbey Gate* (XII). S on the Eildon Hills.—*Miltown Malbay* (XX). S, sleet and R.

13th.—*Ashburton, Druid* (V). S on Dartmoor.—*Stronvar* (XVI). S 3 inches deep.

14th.—*Finchley, Etchingham Park* (I). S $1\frac{1}{2}$ to 2 inches deep at 9 a.m. on 15th.—*Godalming, Witley* (II). 2 inches of S on ground at 6.30 a.m. on 15th.—*Petworth Rectory* (II). S yielding 1·02 in.—*Rhayader, Nantgwilt* (XI). S.

14th and 15th.—*Haslemere, Hazelhurst* (II). Heavy S.

15th.—*Pitsford, Sedgebrook* (III). Heavy S storms, with cold N. wind.—*Walthamstow* (IV). Heavy fall of wet S, changing to R, lasted all day (·94 in).—*Diss* (IV). Gale from N.E.—*Ashburton, Druid* (V). S shower, exceptionally large flakes.—*Wakefield Prison* (IX). Heavy S and R.—*East Layton* (IX). Snow at night.—*Dunkeld, Inver Braan* (XVI). S and sleet.

15th and 16th.—*Melrose, Abbey Gate* (XII). S and sleet, the hills white.

15th—20th.—*Dalnaspidal* (XVI). S daily.

16th—19th.—*Kirkland Vic.* (X). Helm wind.

17th.—*Torquay, Babbacombe* (V). L.

20th.—*Birkdale* (VIII). S in morning, melted by 1 p.m.

21st.—*Northampton* (III). Dense fog.

24th.—*Scourie* (XIX). Thick wet mist; lunar rainbow in N.E.

25th.—*Ross, The Graig* (VI). Mock sun in day, and mock moon at night, with bright prismatic colours.

26th—28th.—*Loch Ness, Drumnadrochit* (XVIII). S.

27th.—*Scarborough, West Bank* (IX). Squalls of S and H.

27th and 28th.—*Diss* (IV). Heavy S storms from N. and N.W., with bright intervals.—*Hemingby* (VII). S.

28th.—*Southwell* (VII). S at night, 1½ in. deep.—*Driffield* (IX). S 4 inches deep.—*Scarborough, West Bank* (IX). Heavy showers of S and H.—*Douglas* (XI). Heavy fall of S.—*Glenaladale* (XVIII). S on hills.—*Hurdlestown* (XX). A little S; Cragnamorough had a white cap next morning.

MARCH.

1st.—*Petworth Rectory* (II). S yielding ·13 in.—*Berkhampstead* (III). S 1 in. deep on ground.—*Oxford, Magdalen College* (III). S.—*Banbury, Bloxham* (III). Ground covered with S.—*Walthamstow* (IV). Heavy S, about 3 in., yielding ·17 in.—*Rendlesham Hall* (IV). S all day.—*Diss* (IV). Heavy S storm from early morning till evening.—*Alderbury* (V). S and H.—*Stowell Rectory* (V). S.—*Chelford, Astle Hall* (VIII). 2 inches of S in morning; very cold.—*Rhiwbryfdir* (XI). S 3 inches deep.—*Melrose, Abbey Gate* (XII). S 1 inch deep.

1st and 2nd.—*Ipswich, Bishop's Hill* (IV). 4 inches of S.—*Woodbridge, The Cedars* (IV). S.

1st—3rd.—*Cheltenham* (VI). S daily.

2nd.—*Keston Tower* (II). S 4 inches deep.—*Upminster Hall* (IV). S 3 inches deep.—*Diss* (IV). Much S, with fair intervals.—*Bishop's Cannings* (V). S squalls.

3rd.—*Edenbridge, Falconhurst* (II). S yielding ·40 in.

4th.—*Sharp frost; said to have been at some stations the sharpest of the whole winter. At the *Royal Observatory, Greenwich* (II). the min. was 13°·1, the lowest in March since 1845, in which year the same temperature was reached on March 13th.—*Camden Square* (I).

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* See *Met. Mag.* March, 1890, p. 19.

Min. 15°·6 on Glaisher stand; and 18°·0 on the Stevenson, being the lowest in March for 30 years. Skating in most of the London parks. It was stated in the *Standard* that in the Caterham Valley numerous thermometers recorded between + 2° and − 1°, and + 1° was also reported from Bickley, Kent, but probably few if any of these thermometers were properly mounted.—*Ross, The Graig* (VI). Very severe frost (15°·8), though not quite equal to that of March 13th, 1845.—*Ketton Hall* (VII). Min. 12°, the lowest yet recorded in any March.

7th.—*Bolton, Heaton* (VIII). S 1½ inches deep, yielding ·12 in.

8th.—Whirlwind in afternoon S.E. of *York*, wrecking several buildings and uprooting trees.*—*Southwell* (VII). TS at 4.55 p m. —*Meltham, Harewood Lodge* (IX). TS at 2 p.m.—*Boston Spa* (IX). TS with large H.—*Driffield* (IX). TS and squall of wind and R.—*Thixendale* (IX). TS at 3 p.m.—*Scarborough* (IX). Heavy shower and one flash of L at 3.30 p.m.—*Douglas, Victoria Road* (XI). Gale with S, H and R.—*The Hangingshaw* (XIII). Gale and S storm.—*Stronvar* (XVI). S 3 inches deep.—*Galway, Queen's College* (XXII). Heavy showers of sleet and S.

9th.—*Lynsted* (II). Sharp H storm at 3 p.m.—*Banbury, Bloxham* (III). Heavy S storm.—*Ashburton, Druid House* (V). S on hills.—*Chelford, Astle Hall* (VIII). S storms most of the day.—*Dumfries, Crichton Institution* (XII). S on hills.—*Hurdlestown* (XX). S on the hills.

10th—13th.—*Ben Nevis* (XVIII). Continuous heavy R, 13·41 in. in the four days. On the 11th heavy R fell all day, exceptionally heavy in the early morning; the amount for the two hours ending 4 a.m. being 1·03 in. and for the first six hours 2·35 in., total fall 5·52 in.

12th.—*Southwell* (VII). Duration of sunshine 10·2 hours.

15th.—*Castle Lough* (XX). S on hills.

16th.—*Brattleby* (VII). H and S storms.—*Boston Spa* (IX). T and L.—*Whorlton* (X). T, L and H.—*Bingfield House* (X). TS.—*Melrose, Abbey Gate* (XII). T and L 2.40 to 5 p.m.—*The Hangingshaw* (XIII). T and R.—*Coupar Angus* (XVI). Severe TS.—*Dalnaspidal, H.R.S.* (XVI). T, L and R.

17th.—*Pendock Rectory* (VI). TS at 2 p.m.

17th and 18th.—*Berkhamsted* (III). Continous R from 9 p.m. 17th to 5 p.m. on 18th.

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* See *Quar. Jour. Roy. Met. Soc.*

19th.—*Pitsford, Sedgebrook* (III). At noon a dark cloud appeared in the N.W.; as it passed over the weather became intensely cold, with S and sleet; as the storm came on the thermometer fell in a few moments from 40° to 29° and the R froze as it fell; in less than an hour the thermometer rose again to 40°.—*Derry Castle* (XX). T, L and H.

20th.—*Melmerby* (X). S on the fells.—*Melrose, Abbey Gate* (XII). Eildons white with S.—*Drumnadrochit* (XVIII). S on the high land.

24th—*Crewkerne, Bincombe House* (V). Heavy R from 9 a.m. till 1 p.m. ·70 in., with a gale from S. to S.W.

26th.—*Stronvar* (XVI). H showers and T.

APRIL.

5th.—*Berkhamsted* (III). Temp. rose from 27° to 60° between 7 a.m. and 4 p.m.; air remarkably dry, relative humidity at 3 p.m., 38.

6th.—*Rochdale, Fieldhead* (VIII). In 2 minutes ·03 in. of R fell.

7th.—*Burton, Hoar Cross* (VI). T and H.—*Ketton Hall* [*Stamford*] (VII). L, and showers of R, H and S at night.—*Brattleby* (VII). T and L.—*Kirkland* (X). S and H.—*Hutton Roof* (X). T and H.—*Barton Hall* [*Penrith*] (X). T and L.—*Dunkeld, Inver Braan* (XVI). S and H.—*Loch Shiel, Glenaladale* (XVIII). S on hills.

8th.—*Hampstead, Branch Hill* (I). Remarkable shower of soft H shortly before 1 p.m. The masses of H were of irregular shape, in some cases half-an-inch in diameter, and appeared to be made up of small plates of ice, adhering like the petals of a double marigold.—*Finchley, Etchingham Park* (I). Showers of soft H.—*Dorking, Abinger Hall* (II). H storm, with T.—*Lynsted* (II). H storm.—*Diss* (IV). Heavy gale from W. at mid-day.—*Ashburton, Druid* (V). H; hills grey with S.—*Chelford, Astle Hall* (VIII). TS at night, with H.

9th.—*Maidenhead* (III). S storm.—*Seathwaite Vicarage* (VIII). S on the fells.—*Driffield* (IX). A magnificent display of solar halos and parhelia.—*Shap, Copy Hill* (X). S at night.—*Gorebridge, Middleton* (XIII). S.

10th.—*Ashburton, Druid* (V). Severe H, hills white at 3 p.m.—*Cirencester, Further Barton* (VI). S.—*Stroud, Upfield* (VI). About an inch of S at 6 a.m.—*Coventry, Coundon* (VI). S and R.—*Horncastle, Hemingby* (VII). Driving showers of R, S and sleet —*Kirkland* (X). S on the fells.—*Melmerby* (X). S on the fells.—*Uldale Rectory* (X). S

and sleet.—*Rhiwbryfdir* (XI). S on the hill tops.—*Dumfries, Crichton Institution* (XII). S on the hills.—*Melrose, Abbey Gate* (XII). Eildons white with S.

11th.—*Seathwaite Vicarage* (VIII). S on the fells.—*Monmouth, The Hendre* (XI). S storm, 6 a.m.

12th.—*Wakefield* (IX). S and R.—*Thixendale* (IX). S storm.—*Hutton Roof* (X). Very cold, with S.—*Barton Hall* [*Penrith*] (X). S.

13th.—*Seathwaite Vicarage* (VIII). Half-an-inch of S.—*Melmerby* (X). Fells white with snow.—*Dunkeld, Inver Braan* (XVI). S in morning, remaining on the ground till 5 p.m.

14th.—*Stronvar* (XVI). S.

14th—19th.—*Kirkland* (X). Helm wind.

15th.—*Ben Nevis Observatory* (XVIII). Very dense fog.

15th—17th.—*Melmerby* (X). Strong helm wind.

16th.—*Emsworth, Redlands* (II). L.—*Twyford, Hurst Green* (II). ·44 in. of R fell in 1 hour.—*Gloucester, Maisemore Lock* (VI). TS.—*Cheltenham* (VI). TS at 3 p.m.

17th.—*Darrynane Abbey* (XX). Severe T and L, 4 to 6 p.m.

18th.—*Haslemere, Hazelhurst* (II). TS.—*Dorking, Abinger Hall* (II). Vivid flash of L and heavy peal of T.—*Lynsted* (II). Storm of S, H and sleet, at 7 a.m.—*Sheppey, Leysdown* (II). TS between 7 and 8 a.m.

22nd.—*Ben Nevis Observatory* (XVIII). Heavy S all day, 2·53 in.

23rd.—*Berkhamsted* (III). Heavy H at 3 p.m., many hailstones $\frac{3}{8}$ inch in diameter.

23rd—25th.—*Lewes, Iford* (II). Very heavy R, causing serious floods.

24th.—*Loch Shiel, Glenaladale* (XVIII). S on hills.

24th—26th.—*Melrose, Abbey Gate* (XII). T.

25th.—*Farnham, Seale* (II). In five hours ·95 in. of R fell.—*Lynsted* (II). Between 6 a.m. and 3.45 p.m. 1·17 in. of R fell.—*Beaminster* (V). H and TS, 4—5 p.m.—*Rhiwbyrfdir* (XI). S on the hill tops.—*Coupar Angus Station* (XVI). Severe TS.—*Dunkeld, Inver Braan* (XVI). Sharp TS.

26th.—*Haslemere, Hazlehurst* (II). TS.—*Henley-on-Thames, Assenton* (III). TS, with heavy H from 1 to 2 p.m.—*Oxford, Mag. Col.* (III). Heavy H storm at 10.30 a.m.—*Ipswich, Playford* (IV). Violent TS, tree wrecked.—*Babbacombe* (V). TS.—*Ashburton, Druid* (V). T and L at 3 p.m.—*Teignmouth, Woodway* (V). T and L, 2.20 to 5 p.m.—*Cirencester, Further Barton* (VI). TS with H.—*Monmouth, The Hendre*

(XI). T and H storm.—*Dunkeld, Inver Braan* (XVI). Ice more than ¼ in. thick at sunrise.

26th and 27th.—*Temple Combe, Stowell Rec.* (V). T and L.

27th.—*Babbacombe* (V). TS, with H. Flagstaff on Torbay Hotel struck by L and splintered, and magnetic coil in telephone office melted.

28th.—*Diss* (IV). TS in afternoon.—*Rendlesham* (IV). Storm, R and T, at 1 p.m.—*Beaminster* (V). H storm at 11.30 a.m.

MAY.

2nd.—*Babbacombe* (V). Solar and lunar halos.—*Pendock Rectory* (VI). TS.—*Monmouth, The Hendre* (XI). T and H storm.—*Corwen, Rhug Gardens* (XI). TS.

6th.—TS at *Hereford*, house damaged by L.—*Banbury, Bloxham Grove* (III). T and H.—*Chelford, Astle Hall* (VIII). Fine and mild, TSS about.—*Duddon Valley, Seathwaite Vicarage* (VIII). TS.—*Meltham, Harewood Lodge* (IX). T and L at 6 p.m.—*Harrogate* (IX). TS.—*Duddon Hall* (X). TS.—*Keswick, The Beeches* (X). TS.—*Hutton Roof* (X). TS at 6.30 p.m., with little R.—*Llanfrechfa Grange* (XI). T and L.—*Monmouth, The Hendre* (XI). T and H.—*Castle Malgwyn* [*Llechryd*] (XI). T and H storms.—*Rhiwbryfdir* (XI). L and T.—*New Galloway, Glenlee* (XII). T and L.—*Dumfries, Crichton Institution* (XII). T, L, R and H at 8 p.m.—*Broadford, Hurdlestown* (XX). T and L.—*Galway, Queen's College* (XXII), Heavy showers with T and L.

7th.—*Wallington* (II). TS.—*Oxford, Magdalen College* (III). Heavy TS from 4.30 to 5.15 a.m.—*Southwell* (VII). T 1.30 p.m., R 4 to 6 p.m. ·64 in.—*Driffield* (IX). TS at 7 p.m.—*Colmonell* (XIV). T and L.

8th.—*Hazelbury Bryan* (V). T and L.—*Oystermouth, Newton* (XI). TS.—*Derry Castle* [*Killaloe*] (XX). T, L, H and R from 2.30 to 4.30 p.m.—*Castle Lough* (XX). T and L.—*Broadford, Hurdlestown* (XX). T and L.—*Galway, Queen's College* (XXII). T and L.

9th.—*Rendlesham Hall* (IV). Heavy TS about 4 p.m., L vivid and torrents of R, ·83 in.—*Diss* (IV). Heavy R and TS in afternoon.—TS in South Wales, a farmer (and the two horses with which he was harrowing) near *Carmarthen* was killed by L.

11th.—*Rochdale, Fieldhead* (VIII). In 2 minutes ·03 in. of R fell. *Monmouth, The Hendre* (XI). TSS.

12th.—*Nottingham, Beeston Fields* (VII). T and heavy R at 9 p.m.

—*Elvaston* (VII). Heavy TS at night.—*Rochdale, Fieldhead* (VIII). In 4 minutes ·06 in. of R fell.—*Boston Spa* (IX). L and T.—*Harrogate* (IX). TS.—*Knaresborough, Farnham* (IX). T and L.

13th.—*Douglas, Victoria Road* (XI). S.E. gale, cutting foliage to ribands.

14th.—*Berkhamsted* (III). The sun shone for nearly 13 hours.—*Watten H.R.S.* (XIX). T, R and H.

15th.—*Rochdale, Fieldhead* (VIII). In 1½ minutes ·03 in. of R fell. —*Fort Augustus* (XVIII). TS with ·24 in. of R in 10 minutes at noon.

18th.—*Hazelbury Bryan* (V). T and L at night.—*Wakefield Prison* (IX). T and L at night.—*Dumfries, Crichton Institution* (XII). T, L and R.

19th.—*Walmer* (II). Very heavy TS, with vivid L, 7.30 p.m. to 11 p.m.—*Margate, Renfrew Villa* (II). L, T and heavy R in evening. —*Sheppey, Leysdown* (II). TS at night.—*Berkhamsted* (III). Frequent L at night but no R.—*Winslow, Addington* (III). In 12 minutes ·25 in. of R fell.—*Oxford, Magdalen College* (III). Heavy T and R in evening.—*Cambridge Observatory* (III). The only TS worth mentioning, R ·86 in.; a tree struck ½ mile distant. Floods at *Hardwick, Toft* and *Comberton.*—*Stretham Engine* (III). Heavy TS. —*Saffron Walden, Newport* (IV). TS.—*Sudbury, Friars Street* (IV). Severe TS.—*Diss* (IV). TS at night.—*Babbacombe* (V). T and L.— *Cirencester, Further Barton* (VI). TS at midnight.—*Gloucester, Maisemore Lock* (VI). TS.—*Cheltenham, Southam Villa* (VI). TS 8 to 9 p.m.—*Burton, Derby Road* (VI). TS.—*Ketton Hall* [*Stamford*] (VII). TS.—*Stamford, Little Casterton* (VII). TS at about 4 p.m. with R and H; the storm lasted only about half-an-hour and the gauge yielded 1·46 in. Another storm occurred about 2 a.m. and lasted about an hour ·34 in. falling, making a total for the 24 hours of 1·80 in.— *Grantham, Stainby* (VII). TS.—*Grantham, Little Ponton* (VII). Heavy R ·45 in. fell in half-an-hour.—*Grantham* (VII). ·47 in. of R fell in two hours.—*Southwell* (VII). TS in night.—*Elvaston* (VII). T and L, with heavy shower at night.—*Chelford, Astle Hall* (VIII). Heavy TS at night.—*Knutsford, Heath Side* (VIII). TS at night.

20th.—*Brattleby* (VII). T and L.—*Boston Spa* (IX). TS.

20th to June 3rd.—*West Cowes, Holmwood* (II). Fifteen days without R.

24th.—*Hazelbury Bryan* (V). T and L at midnight.—*Crewkerne, Bincombe Ho.* (V). Very hot, with TSS.—*Stowell Rectory* (V). T and

L at 6 a.m., and at midnight.—*Taunton, Lydeard House* (V). TS.—*Cheltenham, Southam Villa* (VI). The hottest May Day since 1884.—*Southwell* (VII). Duration of sunshine 14½ hours, the max. duration yet recorded.—*Melmerby* (X). Strong helm wind.—*Derry Castle* [*Killaloe*] (XX). T after 3 p.m., L at night.—*Broadford, Hurdlestown* (XX). T, L and R at 5 p.m.—*Miltown Malbay* (XX). T and L.—*Galway, Queen's College* (XXII). Much L at night.

25th.*—*Lyme Regis* (V). Great TS from 2 to 8 p.m. The rain gauge. which holds 2·00 in., overflowed.—*Lyme Regis, Holm Cleve* (V). R 3·70 in.—*Babbacombe* (V).—Distant T and L.—*Teignmouth, Woodway* (V). TS and heavy R from 3 to 4 p.m.—*Rousdon Observatory* (V). Distant T was heard about 2 p.m., and became continuous by 3 p.m. ; about 3.30 p.m. a few enormous drops of R fell, and shortly after a heavy downpour set in, ·18 in. falling in 15 minutes ; the storm subsided considerably by 4.45 p.m. At 6 p.m. another storm came up, and at 6.45 p.m. a very heavy downpour commenced, 1·56 in. falling in about an hour ; by 8.30 p.m. the R had nearly ceased. The R in 5 hours was 2·07 in., by the recording gauge, 10 ft. above ground, 2·13 in. at 1 ft., and 2·21 in. at 4 ft. above ground.—*Clevelands* [*Lyme Regis*] (V). Thunder was first heard about 2 p.m. R began at 3 p.m. and ceased shortly after 8 p.m., 2·77 in. being recorded at 9 p.m.—*Axminster, Great Trill* (V). Heavy R from 3 to 4 p.m., and a tremendous storm from 6.30 to 7.30 p.m. Total : R 2·14 in.—*Tiverton, Broomhill* (V). R commenced at 2.15 p.m. and was followed by severe H for 2 hours ; the heavy R and L lasted until 4.30 p.m., and R fell at intervals till 10 p.m. Total, 5·20 in. —*Tiverton, St. Peter's Street* (V). L began at 2.15 p.m., followed almost immediately by loud T, heavy R and soon by large H. The worst of the storm lasted about 2 hours, but R fell heavily for another hour or more, and showers occurred at intervals all the evening. Between 2.15 and 5.15 p.m. 4·50 in. fell, and ·35 in. more up to 9 a.m. on the 26th, making a total for the 24 hours of 4·85 in. *Torrington, Langtree* (V). Heavy T, with vivid L continued for 4½ hours without ceasing, and ·81 in. of R fell in a very short time.—*Exford Rectory* (V). TS and heavy R, ·70 in. fell in 22 minutes, between 4.50 and 5.12 p.m.—*Kirkland Vic.* (X). Violent helm wind.—*Oystermouth, Newton* (XI). TS.—*Gower, Penmaen* (XI). Violent TS, with 1·52 in. of R in about 2½ hours.—*Gower, Pilton Green* (XI). In

* See *Met. Mag.*, June, 1890, p. 65.

an hour-and-a-half 1·20 in. of R fell.—*Swansea* (XI). 1·53 in. of R fell in 1 hr. 33 min.—*Castle Malgwyn* (XI). TS.

28th—30th.—*Drumnadrochit* (XVIII). Showers of H. Hills 1,200 ft. and upwards covered with new S.

29th.—*Belford, Chatton Vic.* (X). Heavy H showers in evening.—*Dalnaspidal, H.R.S.* (XVI). S and R.—*Loch Shiel, Glenaladale* (XVIII). S on hill tops.

30th.—*Selkirk, The Hangingshaw* (XIII). Cold, with R, H and snow showers.

31st.—*Cheltenham, Southam Villa* (VI). The coldest May night since 1886.—*Llandovery* (XI). Sharp frost in morning.

JUNE.

1st.—*Abinger Hall* (II). Frost, which damaged Strawberries and even Laurels, Hollies, Chesnuts, Oaks and Bracken.—*Bloxham Grove* (III). Ground frost.

6th.—*Crimplesham* (IV). TS.

7th.—*Scourie* (XIX). Heavy H storm.

10th.—*Berkhamsted* (III). Temperature rose 30° between 6 a.m. and 10 a.m., it then remained nearly stationary till 2.30 p.m. when a heavy shower came on, and it then fell 10° in about the same number of minutes.—*Pendock Rectory* (VI). T.—*Elvaston* (VII). Stormy with T and L.—*Knutsford* (VIII). TS.—*Birkdale* (VIII). T and L at 3 p.m., followed by a heavy shower.—*Boston Spa* (IX). TS.—*Ilkley* (IX). In 45 minutes ·90 in. of R fell.—*Kirkland Vicarage* (X). Violent TS with a deluge of R.—*Shap* (X). TS.

10th—12th.—*Stowell Rectory* (V). T and R.—*Knaresborough, Farnham* (IX). TSS.

11th.—*Walthamstow* (IV). TSS.—*Brattleby* (VII). T and L.—*Meltham, Harewood Lodge* (IX). TS from 4 to 5 p.m.—*Leeds, Elmete Hall* (IX). TS.

12th.—*Wallington* (II). TS.—*Keston Tower* (II). TS.—*Berkhamsted* (III). A severe TS passed to S. of the town, nearest about 2.30 p.m. when heavy R and H fell.—*Peterborough* (III). T, L, H and R, ·07 in. fell in 7 minutes.—*Maxey Vicarage* (III). A water spout was seen from this station, apparently about two miles W.; 1·14 in. of R fell here.—*Sandy, The Lodge* (III). TS.—*Walthamstow* (IV). TSS.—*Crimplesham* (IV). TSS.—*Ross* (VI). TS.—*West Bromwich* (VI). At 7 p.m. ·16 in. of R fell in 15 minutes.—*Southwell* (VII). Heavy TS from 2 to 2.30 p.m., with ·89 in. of R.

13th and 14th.—*Melmerby* (X). Helm wind.

25th.—*Scourie* (XIX). Much damage done to vegetation by a severe gale.—*Watten H.R.S.* (XIX). Heavy gale from W.

27th.—*Brattleby* (VII). TSS.—*Rochdale, Fieldhead* (VIII). In 4 minutes ·10 in. of R fell.—*Boston Spa* (IX). T and H.—*Melrose, Abbey Gate* (XII). T, L and H.—*The Hangingshaw* (XIII). TS.—*North Esk Reservoir* (XIII). T and L at intervals all day.—*Edinburgh, Blacket Place* (XIII). T, L and heavy R.

28th.—*Lansdowne Crescent* (I). Heavy R ·85 in.; between 3.30 and 3.50 p.m. ·23 in. fell.—*Teignmouth, Woodway* (V). TS at 1.40 p.m., L ran down the rain-water pipe at No. 1, Esplanade, Teignmouth, and knocked down two boys taking shelter.—*Ross* (VI). TS.—*Much Marcle, Homme House* (VI). Severe H storm ·23 in. falling in 25 minutes from 0·30 p.m.—TSS in the Midland counties, two men killed, numerous cattle and buildings destroyed; and a whirlwind at Workington, Cumberland, which, crossing the Market-place, took up the stalls with their contents of meat, vegetables, &c., and carried parts of them over, and on to, the roofs of neighbouring houses.—*Burton, Derby Road* (VI). TS.—*Warrington, Howley* (VIII). Between 9.55 and 11.10 a.m. ·66 in. of R fell.—*Keswick, The Beeches* (X). TS-*Monmouth, The Hendre* (XI). TSS.—*New Galloway, Glenlee* (XII). T, L and heavy showers.—*Woodlawn Gardens* (XXII). Terrific shower of H from 2 to 2.20 p.m.

29th.—*Lansdowne Crescent* (I). R and H.—*Driffield* (IX). TS at 7 p.m.—*Darrynane Abbey* (XX). Strong N.W. gale.

30th.—*Crimplesham* (IV). TS.—*Ben Nevis* (XVIII). Strong S.E. gale, velocity of wind over 60 miles an hour, from 4 a.m. to 3 p.m., and 75 miles from 11 a.m. to noon.

JULY.

1st.—*Wallington* (II). Violent TS.—*Walthamstow* (IV). Smart TS at 1 p.m.—*Southwell* (VII). Heavy R, 1.55 to 2.5 p.m.; in the 10 minutes ·27 in. falling.—*Melmerby* (X). Helm wind.

2nd.—*Lansdowne Crescent* (I). Heavy R at 10.30 p.m.—TSS in the afternoon in the North of Cambridge and in Rutland, producing local floods. Cattle and trees killed by L.—*Ross, The Graig* (VI). TSS with heavy R, 1·10 in.—*Burton, Derby Road* (VI). TS.—*Ketton Hall.* [*Stamford*] (VII). TS, with ·60 in. of R.—*Southwell* (VII). Heavy R; in in a TS from 2.48 to 3.5 p.m. ·26 in. fell.—*Brattleby* (VII). TSS.—

East Layton (IX). T and H.—*New Galloway, Glenlee* (XII). T.—*Balquhidder, Stronvar* (XVI). T, L and R, noon to 1 p.m.—*Dalnaspidal* (XVI). T, L and R.

3rd.—*East Layton* (IX). T and H.—TS in *Cleveland* (IX). shortly before 2 p.m.; the Eston Steel Works damaged.

4th.—*Brixton, Acre Lane* (II). Steady R set in at 10 p.m., lasting till 2 p.m. on 5th, and giving 1·45 in. There was a gale in the morning of the 5th, which uprooted many trees.—*Arundel, Clapham Rectory* (II). R began about 1.30 p.m. on 4th, and continued for about 24 hours, 1·68 in.—*Ulpha Vic.* [*Broughton-in-Furness*] (X). T and H.—*New Galloway, Glenlee* (XII). T.—*Dumfries, Crichton Inst.* (XII). T, L and R.

4th and 5th.*—*Redhill, Beech House* (II). In 24 hours, from about 3 p m. on the 4th, 1·55 in. of R fell, being the greatest fall recorded in 6 years.—*Ramsgate, The Vale* (II). Between 5.30 p.m. on 4th and 5.30 p.m. on 5th, 3·30 in. of R fell, 1·67 in. falling in 2 hrs. 25 min. after 7.5 a.m. on 5th.—*Folkestone, Capel Lodge* (II). Between 3.30 p.m. on 4th and 9 a.m. on 5th, 2·58 in. of R fell.

5th.—The gale and R did much harm in Kent, levelling corn, hay, and hop poles, and greatly damaging cherries and other fruit.—*Sheppey, Leysdown* (II). Heavy R and N.E. gale.—*Lynsted* (II). From 4 a.m. to 5 p.m., 3·60 in. of R fell.—*Margate, Renfrew Villa* (II). Strong E.N.E. gale, with heavy R, 1·46 in.—*Chelford, Astle Hall* (VIII). Very heavy R in afternoon, with T.—*Ulpha Vicarage* (X). Sharp TS at 3 p.m.—*Edinburgh, Blacket Place* (XIII). H.

6th.—*Knutsford* (VIII).—On July 6, max. 56°·8; min. 46°·0.
On Jan., 6, max. 54°·2; min. 46°·0.

7th.—*Diss* (IV). S.W. gale at night.

8th.—*Ben Nevis Observatory* (XVIII). Hill top covered with 8 inches of fresh S.

11th.—*Margate, Renfrew Villa* (II). TS in early morning, L very vivid.

12th.—*Thixendale* (IX). Ice on the scythe of the mower.

14th.—*Broughton-in-Furness* (VIII). In 30 minutes ·65 in. of R fell.

15th.—*Douglas, Victoria Road* (XI). Very cold; loud T at 5 a.m.

16th.—Hay crops in Lancashire much injured by continued heavy rain.—*Bere Ferrers* (V). R 2·23 in., the greatest fall in 24 hours since

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* See *Met. Mag.* July 1890, p. 96.

Nov. 1st, 1875.—*Tavistock, Public Library* (V). Heavy R 2·00 in., of which at least three-fourths fell between 4 and 8 a.m. on 17th, causing the river Tavy to rise rapidly, overflowing its banks, and destroying bridges, dams and the Abbey weir, and causing great destruction of property.—*St. John's* [*Devonport*] (V). T, with heavy R, 1·88 in.

17th.*—TS. At Brixton the water was in some parts 2 or 3 feet deep and the trams had to cease running. The Bon Marché and many other buildings flooded. The common room at Lincoln's Inn, and also a pinnacle at the Houses of Parliament were struck by L. The brook running from Harrow to Hanwell was suddenly converted into a series of lakes, the meadows on the sides being partly inundated. The Colne overflowed its banks at West Drayton, and part of Hayes was under water.—*Upper Holloway.* The train from Moorgate Street for South Tottenham at 8.45 p.m., was stopped by the line being flooded, and could not proceed until 3.20 a.m. on 18th. The low-lying streets near Woodberry Down were flooded, several of them 3 ft. deep.—*Roy. Obs., Greenwich* (II). R began at 2 p.m., was very heavy, with T and L, from 6.30 to 7.30 p.m., and was continuous from 10.30 p.m. on 17th to 7 a.m. on 18th, yielding 1·62 in. —Much damage by R in Dulwich, Norwood, Brixton and the S. of London generally.—At Bournemouth the whole of the lower pleasure grounds were flooded and turned into a large lake. Flooding was also reported from Windsor, Maidenhead, Reading, Aldershot, Rickmansworth, Barking, Bury St. Edmunds, and Dartmoor.—*Staines, Belle Vue* (I). R 3·60 in.—*Staines, Knowle Green* (I). R 3·20 in. —*Kensington, Edith Road* (I). Very heavy R for about 12 hours amounting to 1·92 in., it set in with a TS, which, however, passed away in a short time.—*Kensington, Addison Gardens* (I). R commenced about 3 p.m. and continued till 6 a.m. on 18th, 1·95 in.—*Lansdowne Crescent* (I). Violent TS between 6 p.m. and 8 p.m., 2·03 in. of R in 14 hours.—*Norfolk Terrace* (I). TS from 7 to 9 p.m. and continous R throughout the night, 1·85 in.—*Tottenham* (I). R 1·98 in., 1·32 falling in 3½ hours.—*Muswell Hill* (I). R 2·14 in., the largest since April 10, 1878—*Finchley, Elmhurst* (I). R commenced at 4 p.m. but was not heavy till 7.30 ; by 8.30 1·67 in. had fallen, of which 1·50 in. must have fallen in the hour ; the total for 24 hours was 2·72 in.—*Finchley, Etchingham Park* (I). L and T

* See also *Met. Mag.*, Aug., 1890, p. 97.

between 7 and 9 p.m. ; R 2·57 in., the largest fall recorded in 24 hours during 5 years.—*Stanmore Observatory* (I). R from 7.15 p.m. to 9 p.m. 1·72 in., and from 9 p.m. to 7.15 a.m. on 18th, 1·19 in., making 2·91 in. in 12 hours. In 22 hours, from 8 p.m. on 17th to 5.30 p.m. on 18th, 3·46 in. of R fell.—*Hillingdon* (I). The R gauge which holds 4 inches, was found overflowing on morning of 18th.—*Farnham, Seale* (II). Heavy TS 1·15 in. of R fell in 1 hour 15 minutes and 2·15 in. in the 24 hours. —*Guildford, Wern* (II). The storm broke about 5 p.m. and between that and 7.30 p.m. 2·61 in. of R fell ; a tree was struck by L and many houses in Guildford were flooded.—*Bisley* (II). In an hour 1·86 in. of R fell.—*Chobham* (II). Heavy TS ; ·99 in. of R from 4.15 to 6 p.m. ; ·44 in. from 6 to 9 p.m. ; ·54 in. from 9 p.m. to 9 a.m. on 18th.—*Weybridge, St. George's Lodge* (II). R began at 3 p.m. and had ceased by 7 a.m. on 18th, 1·80 in. —*Wallington* (II). TS, 1·55 in. of R falling in 14 hours.—*Egham, Cooper's Hill* (II). R 3·33 in.—*Forest Hill, Barr Beacon* (II). R 2·17 in. ; 1·71 falling between 3 p.m. and 8 p.m.—*Basingstoke, Monk Sherborne* (II). The storm commenced at 4 p.m. and by 6 p.m. 1·23 in. had fallen. Total for the day 2·68 in.—*Hartley Wintney* (II). T and the heaviest R recorded, 2·15 in.—*Reading, Russell Street* (II). Showery in morning, gentle R at 5 p.m., vivid L and loud T at 6.35 p.m. with a deluge of R, 2·65 in.—*Maidenhead* (II). TS and very heavy R, 3·10 in. in 24 hours. —*Cookham Vicarage* (II). R began about 6 p.m. and between 7 and 8 p.m. was torrential, keeping on heavily till after midnight, but ceasing before 5 a.m. on 18th. Total 3·37 in., nearly 50 per cent. greater than any fall recorded in 25 years.—*Rickmansworth, Moor Park* (III). The storm lasted about 4 hours from 8 p.m. till midnight, and the rain gauge collected 4·19 in. —*Broxbourne* (III). Distant T and L and 1·77 in. of R —*Berkhamsted* (III). R fell from 4.30 p.m. to 4.30 a.m. on 18th to the total depth of 1·75 in.—*Eton College* (III). R 3·27 in., mostly between 6 p.m. and 4 a.m. on 18th.—*Slough, Langley* (III). R commenced at 3.30. but soon ceased and re-commenced about 5 p.m. falling steadily till 6 p.m., from which time to 8 p.m. it poured tremendously ; it then moderated a little, but heavy R fell till after midnight. The measurements were ·97 in. at 6.56 p.m., 1·02 in. at 7.50 p.m., 1·01 in. at 10.50 p.m. and ·68 in. at 6.30 a.m. on 18th. A total of 3·68 in. in 15 hours.—*Slough, Upton* (III). R 2·71 in. ; 1·84 in. fell up to 10.20 p.m., ·52 in. up to 0.20 a.m. on 18th, and ·35 in. more up to 8 a.m.—*Great Marlow* (III). R began falling at 7 p.m. and continued

for 6 hours, the fall being 2·32 in.—*Addington* (III). A slight shower fell about 1 p.m. and it remained dull and dark till about 4.30, when a bright flash of L occurred; at 5.15 p.m. it began to R and continued till far into the night, the record at 9 a.m. on 18th being 2·20 in.; a large flood resulted.—*Whitchurch Rectory* (III). TS from 5 to 8 p.m. and steady R till past midnight, 2·05 in.—*Culham Vicarage* (III). R began about 4.45 p.m. and a steady downpour continued till about 2 a m. on 18th, the fall being 1·76 in. There was little T and that distant.—*Stanton St. John's, Woodperry* (III). In a few consecutive hours on 17th and 18th 2·12 in. of R fell.—*Northampton, Hazlewood Road* (III). Heavy R, at night 1·29 in.—*Walthamstow* (IV). Very heavy TS in evening and 2·03 in. of R.—*Sudbury, Friars Street* (IV). T and heavy R 1·22 in.; low-lying meadows were flooded from 18th to 22nd.—*Bury St. Edmunds, Westley* (IV). R began to fall heavily about 8 p.m. and continued most of the night, amounting to 2·70 in. Distant T was heard about 4 p.m., but little R fell till after 8 p.m. when there were a few loud claps of T.—*Diss* (IV). Sharp TS in afternoon from N.W., 1·20 in. of R fell between 1.30 p.m. and 3.30 p.m.—*Crimplesham* (IV). TS and heavy R 1·48 in.—*Bradford* (V). R 1·72 in., nearly all falling in a few hours.—*Bishop's Cannings* (V). Heavy R in evening from N.N.E. 1·28 in.—*Tavistock, West Street* (V). Severe TS, R falling for some hours in sheets (2·04 in.); the river rose to a great height and carried away several bridges.—*Axminster, Great Trill* (V). Heavy TS.—*Ilminster, White Lackington* (V). Greatest R (2·61 in.) since January 23rd, 1872, 1·41 in. fell between 11 a.m. and 1 p.m.—*Langport* (V). Heavy R 3·24 in.—*Glastonbury, High Street* (V). The heaviest R for some years 1·96 in.—*Fairford, Horcott* (VI). In two storms in the afternoon and evening 2·12 in. of R fell.

18th.—*Lansdowne Crescent* (I). Heavy R (·72 in.) at night.

23rd.—*Douglas, Victoria Road* (XI). N.W. gale.

26th.—*Douglas, Victoria Road* (XI). S.W. gale.

27th.—*Ross, The Graig* (VI). Heavy R and T after midnight.

28th.—*Ben Nevis* (XVIII). St. Elmo's fire.

29th.—*Wallington* (II). Lunar corona.—*Derry Castle* [*Killaloe*] (XX). L at night.

30th.—*Douglas, Victoria Road* (XI). S.W. gale.

31st.—*Meltham, Harewood Lodge* (IX). Min. temperature 61°·3 the highest since July 4th, 1881.

AUGUST.

1st.—*Diss* (IV). T and L in afternoon.—*Brattleby* (VII). T and L.—*Driffield* (IX). Severe TS and heavy R, 1·14 in. in the 24 hours.—*Scarborough* (IX). TS.—*Cork, Clarence Place* (XX). TS.—*Fethard, Mobarnane* (XX). ·45 in. of R fell in 45 minutes.—*Broadford, Hurdlestown* (XX). R began at 2.30 and lasted till 4 p.m., 1·04 in. falling in that time. The roads were much cut up on the mountain sides, and great floods occurred in the evening. The R extended over a narrow belt about 2 miles wide.

1st and 2nd.—*Hadfield, Millbrook* (VIII). In 26 hours, from 2 p.m. on 1st to 4 p.m. on 2nd, 2·14 in. of R fell.

2nd.—*Abinger Hall* (II). TS.—*Chobham* (II). TS and ·15 in. of R in 10 minutes, 4.20 to 4.30 p.m.—*Emsworth, Redlands* (II). T, L and R.—Loud clap of T at 4.50 p.m. at Aldershot, and six soldiers sitting on a bench under a tree were knocked down, one being struck dead.

9th.—*Lower Walmer* (II). Severe TS St. Saviour's Church struck.—*Alderbury* (V). TS.—*Babbacombe* (V). TS, with 1·07 in. of R.—*Stowell Rect.* (V). TS.—*Pendock Rectory* (VI). TS from 5.15 a.m. to 9 a.m.

10th.—*Sheppey, Leysdown* (II). TS.—*Henley-on-Thames, Assenton* (III). Heavy R, ·32 in. fell between 10.30 and 11.30 a.m.—*Walthamstow* (IV). Heavy TS in early morning, with ·42 in. of R.—*Sudbury, Friars Street* (IV). In about 3 hours ·90 in. of R fell.—*Crimplesham* (IV). TS and 1·52 in. of R.—*Hazelbury Bryan* (V). TS, with 1·55 in. of R.—*Elvaston* (VII). T and heavy R.—*Birkdale* (VIII). TS in evening, with 1·25 in. of R.

11th.—*Tottenham* (I). Violent TS at Tottenham, several houses struck, one horse, and several sheep, killed. Considerable damage also produced by flooding.—*Muswell Hill* (I). Heavy TS, with H chiefly between 1 and 3.30 p.m., R 1·38 in.—*East Finchley, Elmhurst* (I). Between 1 and 3 p.m. 1·44 in. of R fell; frequent T was heard, and L was seen in the N.E., but at some distance.—*Finchley, Etchingham Park* (I). L and T at intervals from 1 to 7.30 p.m.., with heavy showers, ·66 in.—*Emsworth, Redlands* (II). In 30 minutes ·17 in. of R fell.—*Broxbourne* (III). TS.—*Billericay* (IV). Very sudden heavy and disastrous R, 2·18 in. The Crouch valley badly flooded. —*Walthamstow* (IV). A series of TSS, with almost incessant heavy R from 1 p.m. to 7 p.m., 1·84 in.—*Sudbury, Friars Street* (IV). In 30 minutes ·38 in. of R fell—*Sudbury, Newton Road* (IV). R

1·41 in.; 1·15 in. falling between 9 a.m and 0.15 p.m., most of it during the last hour.—*Rendlesham* (IV). TS.—*Diss* (IV). TS in the afternoon.—*West Bromwich* (VI). In 10 minutes ·10 in. of R fell.—*Southwell* (VII). TS and heavy R, 0.45 to 1.10 p.m.; in this time ·57 in. fell. —*Brattleby* (VII). T and L from 2 to 3.30 p.m.—*Knutsford* (VIII). TS.—*Wakefeld* (IX). TS. *Driffield* (IX). TS and heavy R, ·89 in. from 3.49 to 4.55 p.m., streets flooded.—*Catterick* (IX). Farm labourer killed dy L while slashing a hedge.

12th.—*Rendlesham Hall* (IV). TS.—Considerable floods at Chester-le-Street and Sunderland (Durham), and at Hexham and Newcastle-on-Tyne (Northumberland). At the *Health Offices, Sunderland* the total for the 24 hours, ending 9 a.m. 13th, was 2·75 in., and of this 2·25 in. had fallen in the previous 10 hours. At *West Hendon House* the fall in the 10½ hours, ending 8 a.m. on 13th, was 2·43 in. which, with 0·11 in., which had fallen previously, made the total for the 24 hours up to 8 a.m. on 13th, 2·54 inches. Several houses were struck by L, and a girl was drowned near Usworth Colliery.—*Newcastle, Town Moor* (X). The heaviest R (2·60 in.) ever registered at this station—*Carlisle, Wreay Vicarage* (X). TS and heavy R, 1·63 in.; the greatest fall recorded.—*Innerleithen, Runic Cross* (XIII). During a TS 2·00 in. of R fell in 2 hours.—*Edinburgh, Blacket Place* (XIII). R 1·94 in., of which 1·65 in. fell between 9 a.m. and 9 p.m.

12th and 13th.—*Melrose, Abbey Gate* (XII). L, T and heavy R, 2·47 in. falling in 24 hours, and 1·45 in. in 11 hours; total for the two days, 2·54 in.

13th.—*Kailzie* (XIII). Between 9 a.m. and 5.55 p.m. 1·05 in. of R fell, almost all during a TS between 5.10 and 5.55 p.m., probably not less than an inch fell in 45 minutes.

14th.—*Duddon Hall* (X). Severe W. gales, doing much damage. —*Douglas, Victoria Road* (XI). Whole gale from W.; much damage to vegetation.—*Derry Castle* (XX). L and heavy R at night.

15th.—*Diss* (IV). Heavy gale from S.S.W.—*Seathwaite Vicarage* (VIII). Heavy S.W. gale and R.—*Miltown Malbay* (XX). T and L.

15th and 16th.—*Elvaston* (VII). Very stormy, with T and L.

16th.—A whirlwind passed over Northampton in the morning, trees were uprooted, and chimney-pots and stacks hurled to the ground. In the market square several stalls were carried away, the meat and other articles being strewn about.—*Diss* (IV). TS.—*Cheltenham* (VI). TS, with H and ·16 in. of R in 10 minutes.—

Burton, Derby Road (VI). Violent TS.—*Nottingham, Beeston Fields* (VII). T, L and R at 10.20 a.m.—*Southwell* (VII). TS with H, 10.30 to 11 a.m.—*Brattleby* (VII). Two TSS.—*Llandovery* (XI). T and L.

18th.—*Burton, Derby Road* (VI). TS.

19th.*—Severe TS in S.E. of England; floods at Warlingham and Chelsham, also at Aldershot.—*Wallington* (II). TS.—*Margate, Renfrew Villa* (II). TS in early morning, with heavy R, ·60 in.—*Sheppey, Leysdown* (II). TS.—*Abingdon, Culham Vic.* (III). R began about 7 p.m., and continued to about 5 a.m. on 20th, 2·34 in. At Milton Hill, 3 miles S., 3·80 in. fell.—*Upminster Hall* (IV). In about 2 hours 1·47 in. of R fell.—*Walthamstow* (IV). TS in morning, followed by steady R nearly all day.

22nd.—TS at night at Birmingham, crops in the neighbourhood damaged by floods.—*Douglas, Victoria Road* (XI). L and torrents of R, 1·20 in.

23rd.—During a heavy storm a singular occurrence took place in a harvest field at Bocking, Essex. Two men were on a waggon load of wheat, when a strong whirlwind carried the entire load off the waggon to a considerable distance. One man was lifted with the wheat and buried beneath the sheaves, his leg being seriously hurt, whilst the other man fell quite unhurt into an empty waggon, which stood near.—Heavy gale in Kent, doing much harm to the hop gardens.—*Devizes, Wilts Co. Asylum* (V). In 15 minutes 21 in. of R fell.—*Seathwaite Vicarage* (VIII). Continuous R fell for 8 hours, 1 30 in.

24th.†—TS in S. London shortly after 1 p.m, with much H, gulleys blocked by it, and by street refuse, produced local flooding.—Cowley Road, Brixton, had nearly 8 inches deep of water in it; the Church of St. George's. Wells Street, Camberwell, was struck by L. —*Godalming, Witley* (II). T and severe H storm; the H remaining on the ground in places for 24 hours.—*Reading, Portland Place* (II). Large drops of R began to fall about 5.25 p.m., but soon changed to soft H, the larger stones being the size of large peas; the fall lasted 15 minutes, followed by intermittent heavy R till after 6.30 p.m. *Berkhamsted* (III). Sharp shower of H at noon.—*Pendock Rectory* (VI). H storm for 5 minutes at 1 p.m., ground quite white.—*Southwell* (VII). TS, 11 a.m.—*Rochdale, Fieldhead* (VIII). In 12 minutes ·29 in. of R fell.

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* See *Met. Mag.*, September, 1890, p. 117.
† See *Met. Met.*, September, 1890, p. 123.

26th. –TS in the middle and north of England. A house was struck at Burslem (Stafford), the gas pipes were melted and the gas was ignited. At Bolton (Lancashire) the Local Board office was struck. In the afternoon a gentleman and two ladies were driving from Driffield to Kilham (E. Yorkshire), when the horse was struck dead.—*Portland, The Manse* (V). From about 3 p.m. on the 26th to 4 a.m. on 27th, 1·12 in. of R fell.—*Elvaston* (VII). H, R and L.—*Knutsford* (VIII). TS.—*Meltham, Harewood Lodge* (IX). T and L at intervals.—*Wakefield* (IX). TS, with H and heavy R.—*Boston Spa* (IX). Severe TS.—*Driffield* (IX). Four severe TSS, a man and horse killed.

27th.—TS near Sittingbourne (Kent), and at about 11 p.m. a barn at Bobbing (1 mile N.W. of the town) set on fire by L.—*Diss* (IV). TS.

28th.—*Gloucester, Quedgeley* (VI). Heavy TS; ·44 in. of R fell in half-an-hour.—*Hoar Cross* (VI). TS, with ·76 in. of R in 40 minutes. —*Bedworth Cemetery* (VI). T and large H stones.—*Elvaston* (VII). TS at night.—*Cushendun, Agolagh* (XXIII). Double lunar rainbow shortly after the moon rose.

28th to Sept. 17th.—*Kenley, Ingleside* (II). Absolute drought for 19 days.

29th.—*Sheppey, Leysdown* (II). TS.—*Hoar Cross* (VI). Very heavy H storm.—*Brattleby* (VII). Two TSS.—*Knaresborough, Farnham* (IX). T and H.

29th to Sept. 17th.—*Compton* [*Petersfield*] (II). Absolute drought for 20 days.

30th.—*Birkdale* (VIII). T and L in evening.—*Broadford, Hurdlestown* (XX). Frost at night.

30th to Sept. 17th.—*Ilminster, Ilton Vicarage* (V). Absolute drought. —*Minehead, Blair* (V). Absolute drought.

31st.—*Abinger Hall* (II). Vegetable marrows destroyed by frost.—*Rushall Vic.* (IV). Frost at night.

31st to Sept. 17th.—*West Cowes, Holmwood* (II). Eighteen days without R.

SEPTEMBER.

1st.—*Bloxham Grove* (III). Ground frost.

14th.—*Hurdlestown* (XX). T, L and R.—*Miltown Malbay* (XX). Frequent T and L.

17th.—*Lansdowne Crescent* (I). TS with ·27 in. of R in evening.—

Wallington (II). TS.—*Walthamstow* (IV). TS in evening.—*Knutsford* (VIII). TS at night.—*Birkdale* (VIII). T and L in evening ·87 in. of R between 10 and 11 p.m.—*Ulpha Vicarage* (X). TS.—*Duddon Hall* (X). TS with heavy R.—*Keswick, The Beeches* (X). L at night.

18th.—*Margate, Renfrew Villa* (II). TS with ·28 in. of R.

19th.—*Douglas, Victoria Road* (XI). T, L and heavy R. *Colmonell* (XIV). T and L.—*Stronvar* (XVI). T and L.

20th.—*Henley-on-Thames, Assenton* (III). Between 6.5 and 6.15 p.m. ·14 in. of R fell.—*Oxford, Magdalen College* (III). Heavy TS at 6 p.m. —*Hazelbury Bryan* (V). T and L and heavy shower.—*Ulpha Vicarage* (X). TS from 11 a.m. to noon.—*New Galloway, Glenlee* (XII). T and L from 0.30 p.m. to 5 p.m.—*Edinburgh, Blacket Place* (XIII). TS with heavy squall and H at 2.25 p.m.

21st.—*Haslemere, Hazelhurst* (II). TS.—*Leysdown* (II). Short TS. —*Farnham, Seale* (II). In three hours ·64 in. of R fell.—*Diss* (IV). Heavy R in evening, ·37 in. in half-an-hour.

23rd.—*Teddington* (I). Heavy shower from 11.30 a.m. to 0.10 p.m. without T, ·48 in., and violent TS with H and the heaviest R ever seen, from 4 p.m. to 5.15 p.m. 1·53 in., giving a total of 2·01 in. in the 24 hours.—*Lansdowne Crescent* (I) TS and heavy R at 4.50 p.m. —*Berkhamsted* (III). A severe TS passed to the S.E. during the afternoon but very little R fell.—*Walthamstow* (IV). TS in late evening.—*Further Barton* (VI). TS with heavy R from 3.10 to 3.35 p.m.

24th—27th.—*Ben Nevis** (XVIII). In the four days 11·55 in. of R fell, and in the last week of the month 14·73 in.

25th.—*Glenaladale* (XVIII). R 3·57 in. causing an exceptionally great flood.

29th and 30th.—Great rain in N. Lancashire, causing floods by the overflowing of the Ribble.

30th.—*Grange Over Sands, Nutwood* (VIII). Very heavy R, 1·87 in. —*Cartmel, Broughton Hall* (VIII). R 2·10 in., Skelwith bridge over the Brathay washed away.—*Broughton-in-Furness* (VIII). Heavy R 2·09 in.—*Grizedale* (VIII). The heaviest R for many years; 2·55 in. fell in the rainfall day and more than 3·00 in. in 24 hours.—*Seathwaite Vicarage* (VIII). R 3·19 in. followed by a flood, said to be the highest remembered.—*Monk Coniston Park* (VIII). Heavy R from S.W. 3·59 in.—*Seathwaite* (X). Very heavy R 6·79 in.—*Borrowdale*

* See *Met. Mag.* October, 1890, p. 137.

Vicarage (X). Violent wind and 5·33 in. of R; the largest amount yet recorded in 24 hours.—*Keswick Bank* (X). R 2·66 in.—*Keswick, The Beeches* (X). R fell slightly during the day and very heavily from 5 p.m. to 5 a.m. on October 1st, with very high wind; total fall 2·36 in.—*Penrith, Fir Bank* (X). The heaviest R for 25 years, 1·54 in.—*Penrith, Newton Reigny* (X). The heaviest daily fall (1·61 in.) for 8 years.—*Langdale* (X). The greatest flood in Langdale that has been known for 20, or some say 40 years. Skelwith bridge was washed away about 2 a.m. on October 1st.—*Buchlyvie, The Manse* (XV). Very heavy R from 9.30 a.m. to midnight, 2·95 in.

30th and Oct. 1st.—*Cartmel, Pit Farm* (VIII) In 36 hours 2·25 in. of R fell.

OCTOBER.

2nd.—Heavy rains in the N. of Scotland, flooding many rivers. At *Kirkwall* 1·50 in. of R fell in the 12 hours preceding 7 a.m. on 3rd; the heaviest fall in 12 hours ever recorded there.—*Stornoway* R 1·75 in.—*Fort William* 3·54 in.—*Glencarron* 5·90 in.

2nd and 3rd.—*Fort Augustus* (XVIII). Between 2 p.m. on 2nd, and 2 p.m on 3rd, 2·44 in. of R fell.

3rd.—"The river Bonar has been passing Bonar Bridge nearly covered with Oats and Hay washed from the fields by the floods, and the beach of Dornoch Firth is thickly strewn with grain. The river Lochy (Argyllshire), was never seen so high before. The Orchy (Argyllshire) has risen to a point hardly ever before known in summer, and rarely reached even in stormy winters. Loch Awe is said to have risen 10 feet in a week, and the landing places are under water."—*Loch Torridon, Bendamph* (XVIII). Disastrous R (3·48 in.) carrying away bridges on the main road from Achnasheen to Torridon.—*Ben Nevis* (XVIII). In the 24 hours ending 6 p.m. 8·29 in. of R fell, 1·15 in. falling in the two hours ending 7 a.m.

6th.—*Dunmanway, Coolkelure* (XX). 2·37 in. of R fell at night.

8th.—*Pendock Rectory* (VI). Ripe strawberries gathered.

9th—14th.—*Broxbourne* (III). Fog daily.

12th.—*Berkhamsted* (III). Air very dry, relative humidity at 3 p.m 36.

15th.—*Burton, Derby Road* (VI). Heavy R in morning, ·28 in. fell in 45 minutes, L.—*Chelford, Astle Hall* (VIII). Heavy H storms and T in the evening.—*Birkdale* (VIII). H, L at night.—*Seathwaite*

Vicarage (VIII). T and heavy H showers.—*Ulpha Vicarage* (X). TS with H.—*Llanwrtyd Wells* (XI). Heavy showers of H and R 1 16 in.

15th and 16th.—*Elvaston* (VII). Heavy storms with T and L.

16th.—*Northampton, Haslewood Road* (III). T, L, H and R.—*Chelford, Astle Hall* (VIII). T, H and R in the early morning, heavy showers most of the day, blowing a gale from W.—*Birkdale* (VIII). Severe N.W. gale, H in morning.—*Glendrishaig* (XIV). Great gale from N.W.

22nd.—Owing to long dry period water reported to be very scarce at Buckingham, and in surrounding villages.

24th to 28th.—*Dalnaspidal* (XVI). S daily.

24th to Nov. 24th.—*Honiton, Ivedon* (V). For 32 consecutive days ·01 in. or more of R fell.

25th.—Glossop (Derbyshire), sharp TS about 7 p.m.; one tremendous flash of L struck and damaged a house; at Millbrook, Hollingworth (2 miles off), the flash was so brilliant as to exceed the light of 6 or 7 gas lights burning in a dining room.—*Elvaston* (VII). Brilliant lunar rainbow at 6.30 p.m.—*Knutsford* (VIII). L and H in evening—*Ulpha Vicarage* (X). T, H and heavy R, 1·06 in.—*Duddon Hall* (X). T and H.—*Barton Hall* [*Penrith*] (X). Heavy S.

26th.—*Broxbourne* (III). Heavy fall of S at midday.—*Berkhamsted* (III). Heavy S showers.—*Hazlebury Bryan* (V). S for about 2 hours.—*Bedworth Cemetery* (VI). S, H and sleet.—*Tenbury, Orleton* (VI). S covering the high ground to the depth of $1\frac{1}{2}$ inches.—*Hemingby* (VII). S and sleet in afternoon.—*Southwell* (VII). Heavy S 1.30 to 2.15 p.m., very large flakes.—*Elvaston* (VII). Stormy, with R and S.—*Frodsham, Dunsdale* (VIII). T, L, H, R and S.—*Seathwaite Vicarage* (VIII). The upper fells white with S.—*Brough, Brantinghamthorpe* (IX). One inch of S.—*Scarborough* (IX). Storm of S, H and R.—*Monmouth, The Hendre* (XI). Hills covered with S.—*Llandovery* (XI). Heavy S, yielding ·39 in.—*Castle Malgwyn* (XI). T, L, H and heavy R.—*Douglas, Victoria Road* (XI). N.W. gale with S, H and R.—*Melrose, Abbey Gate* (XII). Hills white with S.—*Glenaladale* (XVIII). Heavy S on the hills.—*Watten H.R.S.* (XIX). N.W gale with showers of R, H, S and sleet.—*Darrynane Abbey* (XX). Strong N.N.W. gale with H.

27th.—*Thixendale* (IX). First fall of S; trees full of green leaf, annuals and roses in full flower, laden down with ice.

27th and 28th.—Severe frost. *

* See *Met. Mag.* November, 1890, p. 147.

NOVEMBER.

1st.—*Douglas, Victoria Road* (XI). N.W. gale and 1·05 in. of R, the R only lasting from about 1 a.m to about 3 a.m.—*Clifden, Kylemore* (XXII). Severe N.W. gale and 1·27 in. of R.

2nd.—*Walthamstow* (IV). Heavy H, with N.W. wind at 2 p.m.; ground thickly covered.—*Birkdale* (VIII). Extremely heavy R from 5.45 a.m. to 6 a.m.—*Colmonell* (XIV). Lunar rainbow.—*Miltown Malbay* (XX). T and L.

3rd.—*Ben Nevis* (XVIII). St. Elmo's fire.—*Derry Castle* (XX). T, vivid L and R.—*Hurdlestown* (XX). T and L at night.—*Miltown Malbay* (XX). S.W. to N.W. gale, with T and L.—*Galway, Queen's College* (XXII). Gale, with much L and heavy squalls.

5th—7th.—*Hawarden* (XI). Westerly gale, with 3·07 in. of R in the three days.

6th.—*Ashburton, Druid* (V). S.W. gale at night and 1·17 in. of R.—*Burton, Derby Road* (VI). Violent gale from N.W., with heavy R.—*Duddon Hall* (X). Violent W. gale and 2·04 in. of R.—*Douglas, Victoria Road* (XI). Gale of exceptional violence from S., veering to W. and N.W., and 2·43 in. of R. Trees uprooted and houses flooded.—*Ardwell House* (XII). R 2·40 in., the heaviest fall remembered.—*New Galloway, Glenlee* (XII). Heavy R 2·07 in.—*Dumfries, Ivy Bank* (XII). R 2·17 in., the greatest fall recorded in five years.—*Glendrishaig* (XIV). Gale and heavy R, 2·55 in.—*Coupar Angus* (XVI). Gale and the greatest R recorded, 2·64 in.—*Dalnaspidal H.R.S.* (XVI). Gale, with R and S, 1·51 in.—*Ben Nevis* (XVIII). S.E. gale of 90 miles an hour, with heavy S drifts.—*Watten, H.R.S.* (XIX). S.E. gale and R at night, 1·10 in.—*Darrynane Abbey* (XX). Gale from S.W., veering to N.W.—the worst remembered—with very heavy sea.—*Derry Castle* (XX). W. gale, 1·05 in. of R.—*Hurdlestown* (XX). Great floods, though the R at this station (·70 in.) was not excessive.—*Miltown Malbay* (XX). Very severe N.W. gale and 1·03 in. of R.—*Clifden, Kylemore* (XXII). S.W. gale and R all day, 1·95 in.—*Clifden, Kylemore Castle* (XXII). R, 1·25 in. in 12 hours.—*Lawderdale* (XXII). Gale from W. and 1·57 in. of R.—*Killybegs* (XXIII). R 1·55 in., 1·40 in. falling between 9 and 10 p.m.

6th and 7th.—*Finchley, Etchingham Park* (I). Heavy S.S.W. to W.N.W. gale.—*Tean Vicarage* (VI). R commenced at 3 p.m. on 6th and ceased at 6 p.m. on 7th, 2·00 in. falling in the 27 hours. This is the heaviest fall since May 12th and 13th, 1886, when 2·55 in. fell.—*Worksop, Gateford* (VII). Gale from S on 6th, veering

to N.W. on 7th, with 1·10 in. of R.—*Elvaston* (VII). Heavy S. to N.W. gale.—*Chester, Christleton Hall* (VIII). A hurricane from N.N.W., with incessant R.—*Millom, Leyfield Ho.* (X). R commenced steadily at 1 p.m. on 6th, with a S.E. wind, which increased to a gale by 4 p.m., the R driving in heavy sheets. About 11.30 p.m. the wind lulled, but about 2 a.m. I was awakened by the R and H beating on a window facing N.W., and the fury of the gale from that time till 4 p.m. was indescribable. At 9 a.m. the rain gauge registered 2·01 in., and by 4 p.m., when the R ceased, another ·90 in. had fallen.—*Ulpha Vicarage* (X). Severe gale and 3·27 in. of R in 25 hours.—*Keswick, The Beeches* (X). Between 3 p.m. on 6th and 3 p.m. on 7th 3·67 in. of R fell.

6th—8th.—*Frodsham, Dunsdale* (VIII). Very stormy, with 3·09 in. of R in the three days.—*Liverpool, Breeze Hill* (VIII). 2·40 in. of R in the three days; severe W. gale on 7th.—*Eccleston* (VIII). In the 3 days 2·84 in. of R fell, or more than in the 3 months, Feb. to April.—*Borrowdale Vicarage* (X). 5·10 in. of R in the 3 days.—*Cockermouth, Hassness* (X). 5·62 in. of R in the 3 days.

7th.—*Kensington, Edith Road* (I). Severe gale, S. veering to N.W. —*Pitsford, Sedgebrook* (III). A large wych elm was blown down between 9 and 10 a.m.—*Bedworth Cemetery* (VI). Shower of ice, 6.30 to 6.45 a.m., followed by R.—*Chelford, Astle Hall* (VIII). A furious storm in the night, with heavy R.—*Birkdale* (VIII). Heavy gale, over an inch of R in the night.

8th.—*Ross, The Graig* (VI). An 11 feet flood on the Wye.—*Burton, Derby Road* (VI). Violent gale from W., with heavy R during night. *Penrith, Nandana* (X). 3 inches of S fell.

9th.—*Elvaston* (VII). L at night.—*Seathwaite Vicarage* (VIII). S on the upper fells.

10th.—*Melmerby* (X). Helm wind.—*Dumfries, Crichton Inst.* (XII). T, L and H.

11th.—*Miltown Malbay* (XX). T, L and H.

12th.—*Birkdale* (VIII). Sharp falls of H in early morning.

13th and 14th.—*Elvaston* (VII). Dense fog.

14th.—*New Galloway, Glenlee* (XII). Continuous heavy R from 10 a.m. to 6 p.m., 1·64 in.—*Ben Nevis* (XVIII). Very heavy E.S.E. gale of 90 to 100 miles an hour, with very heavy S drifts.

17th—20th.—*Darrynane Abbey* (XX). Fog.

22nd.—*Killybegs* (XXIII). R 2·00 in., 1·32 in. falling between 9 and 10 p.m.

22nd and 23rd.—*Diss* (IV). Westerly gales at night, with ·91 in. of R.—*Bishops Cannings* (V). N.W. gales.—*Alstonfield Vicarage* (VI). R 2·74 in. in the 2 days.—*Chatburn, Middlewood* (VIII). R 2·82 in.—*Meltham, Harewood Lodge* (IX). R fell for more than 36 consecutive hours; total, 2·43 in.—*Slaidburn, Whiteholme* (IX). In the 2 days 2·96 in. of R fell.

23rd.—Considerable flooding in Cheshire and S. Lancashire.—*Ulpha Vicarage* (X). S on the hills.

23rd and 24th.—*Elvaston* (VII). Heavy R and W. gale, high flood on Derwent, many fields and roads submerged.—*Holmbridge, Yateholme* (IX). In 26 hours from 10.20 a.m. on the 23rd, 4·10 in. of R fell.

23rd—26th.—*Unthank Hall* (X). Heavy falls of S, with severe frost.

24th.—After 30 hours incessant rain, the Derbyshire Wye and Derwent overflowed their banks and caused much mischief, the streets of Matlock Bridge and Matlock Bath were impassable. The Mersey and the Irwell overflowed and did much damage near Cheadle, Northenden and Flexton.—*Ross, The Graig* (VI). Wye in flood, 11 feet.

24th—27th.—*Chatton Vicarage* (X). S showers, nearly 4 inches on the ground on 26th.

25th.—Snow fell for some hours in Jersey, reaching in some places a depth of several inches; the greatest fall since 1880.—*Melrose, Abbey Gate* (XII). Hills white with S.—*Galway, Queen's College* (XXII). S.—*Clifden, Kylemore* (XXII.) S.

25th and 26th.—*Rochester, Hoo St. Mary* (II). S 22 inches deep; more than any fall remembered by the old inhabitants.—*Pitsford, Sedgebrook* (III). S.

25th—27th.—*Maidstone, Lower Tovil* (II). Heavy S; the fall began with R and melted from below somewhat rapidly. The depth on the ground was very uniform, and reached 17 inches.—*Woodbridge, The Cedars* (IV). S yielding 1·24 in., the depth on the ground being 9½ inches.—*Scarborough* (IX). S.—*North Esk Reservoir* (XIII). S.

25th—28th.—*Hythe* (II). S commenced about 4 a.m. on 25th, and continued at intervals till noon on 28th. The depth at 9 a.m. on 27th was 9½ inches, and the greatest depth 17 inches on 28th.—*Riverhead Vicarage* (II). S.—*Southend* (IV). S daily, yielding a total of 1·56 in. of water.—*Ipswich, Bishop's Hill* (IV). Sixteen inches of S fell in a perfect calm from 8 p.m. on 25th to 5 p.m. on 28th, more

or less continuously.—*Diss* (IV). One continous S storm, yielding 2·45 in.—*Swaffham* (IV). S daily, yielding ·74 in.—*The Hangingshaw* (XIII). S showers.

26th.—*Bethersden* (II). S 12 inches deep.—*Edenbridge, Falconhurst* (II). S 16 inches deep, yielding 1·25 in.—*Lynsted* (II). S 8 inches deep at noon.—*Hailsham* (II). Two inches of S.—*Yarmouth, Market Place* (IV). Heavy fall of S yielding ·98 in.—*Newark, East Stoke* (VII). Four inches of S fell.—*Ketton Hall* (VII). S 3½ inches deep in morning and 9 inches deep by 11 p.m.—*Southwell* (VII). Heavy S squalls, S 3¼ inches deep = ·15 in of R.—*Douglas, Victoria Road* (XI). S, hills quite white.—*Melrose, Abbey Gate* (XII). S an inch and a half deep.—*Hurdlestown* (XX). Hills white with S.—*Cloneevin* (XXI). Heavy fall of S which lay on the ground until the 30th.

26th and 27th.—*Tenterden* (II). S the deepest since December 1875.—*East Grinstead, Old Stone House* (II). S 12½ inches deep, which gave ·93 in. of water when melted.—*Boston* (VII). S 8 inches deep.—*Hemingby* (VII). High winds and S, the rain gauge collecting ·35 in. and ·55 in. while the depth of S on the ground was only about 3 inches and 4½ inches respectively.—*Baldersby* (IX). S.—*Melmerby* (X). Slight S showers.

26th—28th.—*Rochester, Hoo St. Mary* (II). In the three days 22 inches of S fell.—*Oxford, Magdalen College* (III). S daily.—*Castle Ashby* (III). S.—*Rendlesham Hall* (IV). S daily.—*Geldeston* (IV). Very heavy fall of S, about 14 or 15 inches.—*Bergh Apton* (IV). The heaviest fall of S remembered; depth 2 feet without drifting.—*Warminster* (V). S.—*Bishop's Cannings* (V). S.—*Ross, The Graig* (VI). S, depth on the ground on the latter day 3½ inches.—*East Layton* (IX). Eleven inches of S on 26th, increased to 16 inches on the 28th.

26th—29th.—*Broxbourne* (III). S daily.—*Stainby Rectory* (VII). Heavy falls of S.

26th—30th.—*Alconbury* (III). S daily excepting 29th.—*Whorlton* (X). S daily.

27th.—*Wallington* (II). S 2¼ inches deep.—*Maidstone, Debtling* (II). At 9 a.m. there was a good foot of S on the ground everywhere, and S was still falling.—*Canterbury, Harbledown* (II). Snowing all day.—*Lynsted* (II). S 16 inches deep, total fall from the 25th 1·49 in.—*Hailsham* (II). Six inches of S.—*Berkhamsted* (III). S fell during a great part of the day.—*Maxey Vicarage* (III). Fifteen inches of S on the ground.—*Further Barton* (VI). S yielding ·12 in.—*Bedworth Cemetery* (VI). S 3 inches deep, yielding ·24 in.—*Ketton Hall* (VII).

S 10½ inches deep at 9 a.m. and 12 inches deep by 2 p.m.—*Southwell* (VII). S in night 3½ inches deep = ·22 in. of R.—*Elvaston* (VII). Heavy S, 3 inches deep.—*Chepstow, Shirenewton Hall* (XI). S 1¾ in. deep, yielding ·12 in.—*Melrose, Abbey Gate* (XII). Two inches of S. —*Gorebridge, Middleton* (XIII). S 2½ inches deep.—*Edinburgh, Blacket Place* (XIII). S 2 inches deep.—*Carrickmines* (XXI). S yielding ·87 in.

27th and 28th.—*Bloxham Grove* (III). About 2 inches of S.—*Upminster Hall* (IV). Five inches of very light S.—*Stowell Rectory* (V). S.—*Hoar Cross* (VI). S.—*Wakefield* (IX). S.—*Harrogate* (IX). S.—*Drumnadrochit* (XVIII). S.

27th—29th.—*Brough, Brantinghamthorpe* (IX). S 11 to 12 inches deep.

28th.—*Lansdowne Crescent* (I). S falling till afternoon to depth of 2 inches.—*Finchley, Etchingham Park* (I). S 1½ inches deep.—*Tenterden* (II). S 15 inches deep.—*Canterbury, Harbledown* (II). Eleven inches of S on ground, and S still falling.—*Sheppey, Leysdown* (II). The average depth of S in Sheppey varied from 10 to 14 inches.—*Berkhamsted* (III). S ¾ inch deep on ground.—*Walthamstow* (IV). Severe frost and heavy S, drifting at first under influence of strong S.E. wind.—*Wyke Regis* (V). S 17 inches deep.—*Babbacombe* (V). A sprinkling of S on ground.—*Brattleby* (VII). S 8 inches deep on level.—*Nottingham, Beeston Fields* (VII). S 3½ inches deep.—*Southwell* (VII). Heavy S most of day.—*Chelford, Astle Hall* (VIII). Two inches of S fell during the night, and occasional showers of sleet and S during the day.—*Wath-upon-Dearne, Chapel Street* (IX). S 8 inches deep at 9 a.m., and 12 inches deep at 9 p.m.—*Boston Spa* (IX). S 3 inches deep at 9 a.m.—*Llanfrechfa Grange* (XI). S 1½ inches deep.

28th and 29th.*—*Tenterden* (II). Frost, and the lowest temperature since January, 1881.

29th.—*Duddon Hall* (X). S storm followed by thaw.—*Clifden, Kylemore* (XXII). Strong W. gale and 2·14 in. of R.

30th.—*Millom, Leyfield* (X). R 3·08 in.; exceeding any fall in the recollection of the oldest inhabitant.—*Ulpha Vicarage* (X). Steady R all day 2·28 in.—*Eskdale* (X). Exceptionally heavy R, 2·33 in.

DECEMBER.

3rd.—*Maidstone, Debtling* (II). Two or three persons agree that there were 24 to 26 inches of S on the ground here, and that about 6 inches melted as it fell.—*Melmerby* (X). Helm wind all day.

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* See *Met. Mag.*, 1890, p. 161.

5th—21st.—*Penrith, Newton Reigny* (X). Absolute drought for 17 days.

10th.—*Walthamstow* (IV). Dense fog and severe frost, coating all roads with sheets of ice.

11th.—*Old Dromore* (XX). Heavy R, 2·87 in. in 24 hours.

15th.—*Lansdowne Crescent* (I). S, yielding ·09 in.—*Berkhamsted* (III). S 1½ inches deep on ground.—*Willington* (VII). R, the drops freezing as they reached the ground, wind S.W. Max. temp. 32°, min. 14°.

18th.—*Finchley, Etchingham Park* (I). S about 4 inches deep.—*Petworth Rectory* (II). S, yielding ·55 in.—*Birchanger* (IV). S 2 inches deep.—*Swanage, The Bank* (V). S, melting as it fell and yielding ·65 in.—*St. John's* [*Devonport*] (V). Heavy gale at night, with 1·22 in. of R.—*Yeovil, West Coker* (V). Heavy fall of S about 4 inches deep.—*Stowell Rectory* (V). 4 inches of S.—*Bath, Bathwick* (V). Depth of S, 5 inches.—*Cheltenham* (VI). S, 2¾ inches deep.—*Pembridge, Marston* (VI). About 8 inches of S.—*Pendock Rectory* (VI). S, 6½ inches deep. *Diglis Lock* (VI). About 5 inches of S.—*Llanfrechfa Grange* (XI). At night 8½ inches of S fell.—*Monmouth, The Hendre* (XI). 7 inches of S at night.—*Pontypridd, The Reservoir* (XI). 6 inches of S fell.—*Pontypridd, Castell Nos Res.* (XI). 10 inches of S.—*Crickhowel, Gwernvale* (XI). S, 6 inches deep.—*Colmonell* (XIV). 2 inches of S.

18th—19th.—*Rochester, Hoo St. Mary* (II). 5 inches of S.—*Darrynane Abbey* (XX). Very wet, 2·70 in. of R and great floods.

18th—20th.—*Colchester, Surrey Villa* (IV). S, yielding ·28 in.—*Devizes, Wilts Co. Asylum* (V). S, yielding 1·03.—*Bishops Cannings* (V). 8½ inches of S.

19th—*Lansdowne Crescent* (I). Heavy fall of S (·19 in.), ceasing about 3 p.m.—*Abinger Hall* (II). S at intervals, yielding ·24 in.—*Emsworth, Redlands* (II). 4 inches of S on the level.—*Berkhamsted* (III). S, 4½ inches deep on the ground.—*Waddesdon Manor* (III). 6 inches of S.—*Welwyn, Datchworth Rectory* (III). S 6 inches deep in many open places.—*Bloxham Grove* (III). About 4 inches of S on ground.—*Pitsford, Sedgebrook* (III). S fell without intermission all day.—*Ipswich, Bishop's Hill* (IV). Strong gusty wind from E.N.E., with 3 inches of S.—*Stowell Rectory* (V). 2 inches of S.—*Further Barton* (VI). About 7½ inches of S.—*Ross, The Graig* (VI). S, 5½ inches deep at 9 a.m., 7 inches by noon.—*Redditch* (VI). S 6 inches deep.—*Alcester, Ragley Gardens* (VI). S began about 2 a.m., and by 7 a.m. was 6 inches deep; 2 inches more had fallen by

4 p.m., when it ceased.—*Coventry, Coundon* (VI). S 4 inches deep.—*Southwell* (VII). S, 8 a.m. to 4 p.m., 1½ inches deep = ·10 in. of R.—*Elvaston* (VII). S 3 inches deep.—*Birkdale* (VIII). S fell to a depth of 2 inches.—*Chepstow, Shirenewton Hall* (XI). S 7 inches deep, yielding ·75 in.

20th.—*Kensington, Edith Road* (I). Heavy S.—*Wickham, West Lodge* (II). ·25 in. of R fell with the temperature below freezing point.—*Lambourne* (II). Average depth of S, 5 inches.—*Buntingford, Hamels Park* (III). S 3½ inches deep.—*Bradford* (V). S quite 18 inches deep, where not drifted.—*Teignmouth, Woodway* (V). About 6 inches of S.—*Exeter Institution* (V). R and sleet, freezing as it fell.—*Broomford Manor* (V). S yielding 1·30 in.—*St. John's* [*Devonport*] (V). R, S and H till 6 p.m., about 3 or 4 inches.—*South Petherwin* (V). S 17 inches deep.—*Yeovil, West Coker* (V). Heavy fall of S, making the total depth on ground 7½ to 8 inches.—*Stowell Rectory* (V). 8 inches of S.—*Bridgwater* (V). Depth of S on the ground 12 inches.—*Batheaston* (V). S, more than a foot deep, the amount caught by the gauge, when melted, yielded ·75 in.—*Clifton, South Parade* (VI). 5 inches of S increasing the depth on the ground to 8 inches.—*Bedworth Cemetery* (VI). About 3¾ inches of S.

20th and 21st.—*Old Windsor, Friary Gardens* (II). 6 inches of S.

20th—23rd.—*Elvaston* (VII). Very intense frost; river Derwent frozen.

20th—24th.—*Bucknall* (VII). Intense frost with an inch of S on the ground.

21st.—*Trowbridge* (V). Average depth of S on the ground 18 inches.—*Exeter Institution* (V). S 8 inches deep.—*Bath, Bathwick* (V). Depth of S 16 inches.

22nd.—*Kensington, Edith Road* (I). Intensly cold and foggy, max. temperature during the day 19°·5.—*Hoar Cross* (VI). The most intense frost remembered. The soft water pump in the retort house was frozen, and took 7 hours to thaw, with buckets of fire hanging round the suction pipe and barrel.—*Grantham, Stainby* (VII). Heavy S storms, yielding ·40 in.

23rd.—*Ross, The Graig* (VI). River Wye frozen over to bear.—*Duddon Hall* (X). S 3 inches deep.

25th.—*Batheaston* (V). S yielding ·38 in.—*Chepstow, Shirenewton Hall* (XI). 1 inch of S, yielding ·04 in.

25th and 26th.—*Nottingham, Beeston Fields* (VII). The Trent frozen over and available for skating.

26th.—*Southwell* (VII). S in night 2 inches deep = ·15 in. of R.

27th.—*Berkhamsted* (III). S fell during the greater part of the day. —*Walthamstow* (IV). Silver thaw in the evening.

28th.—*Mobarnane* (XX). About an inch of S yielding ·15 in.

30th.—*Exeter Institution* (V). The Exe frozen over and skating on it above the city.—*Llandovery* (X). A peculiar shower of darkish dust fell on the S.

31st.—*Tenterden* (II). R falling in afternoon with thermometer at 31°, and becoming a sheet of ice on the ground, leaves, &c.—*Dover, Pencester Street* (II). Shower of minute ice particles in afternoon, lasting about 3 hours.—*Cork, Clarence Place* (XX). About 2 inches of S.—*Twyford* (XXI). 2 inches of S.

OBSERVERS' NOTES ON THE MONTHS.

JANUARY.

I. *Kensington, Edith Road.* Singularly warm; temp. reaching 50° on 18 days; only three frosty nights.—*Muswell Hill.* A wet month, especially as regards the number of wet days. Total R 13 per cent. above the average of 18 years.—*Finchley, Etchingham Park.* R and number of wet days both large; only two consecutive days without R.

II. *Wallington.* Exceedingly damp and warm; everything very forward. R ·31 in. above the average of six years. Humidity 89. Sunlight 25 per cent. of the possible duration.—*Keston Tower.* The first three days calm, with frost, the rest of the month stormy with continued strong S.W. winds. Temp. very mild.—*Lewes, Iford.* Very wet, only 6 days without R.—*Maidenhead.* Rather wet. Frost on 7 nights.

III. *Throcking Rectory.* R ·79 in. in excess of the 10 years average. Temp. 5°·2 above the average.—*Banbury, Bloxham.* Generally mild; stormy with occasional heavy gales from 17th to 25th.—*Northampton.* Remarkable for frequent gales and great variations of pressure and temperature; R ·25 in. above the average of 24 years.—*Fulbourne Asylum.* Unusually mild; almost continous gales from S. and S.W. during the last 3 weeks. No S.

IV. *Walthamstow.* Rough and squally, but very mild; R up to the average.—*Sudbury, Friars Street.* Mild throughout, with only occasional frosts; unsettled towards the end.—*Ipswich, Bishop's Hill.* Mild and open, with much mist and fog. R ·26 in. below the average; temp. generally high.—*Woodbridge, Melton.* Weather generally too open and vegetation too forward.—*Diss.* A month of moist warm weather and strong gales, the wind having blown from a Southerly quarter every day but the 28th and 29th. One continous gale, sometimes of great violence may be said to have blown from the 17th to the 27th, partial remissions, never amounting to complete subsidence having occured on the 20th and 23rd.

V. *Bishop's Cannings.* Very mild after the first 2 days, with W. and S.W. winds. R nearly an inch above the average.—*Hazellbury*

Bryan. R excessive, and the land so saturated that work was almost impossible on the heavier soils.—*Babbacombe.* A very warm, stormy, wet, damp, cloudy and gloomy month. The mean temp. (45°·5) and the max. (57°·2) were the highest, and the number of days on which the temp. rose to 50° was the greatest, in the 13 Januaries observed; the number of days (16) on which gales blew was the greatest in any month. S on 2 days, H on 6, L on 4, fog on 7 days.—*Holne Vicarage.* R more than double the average of the preceding 4 Januaries. —*Brampford Speke.* The first 3 days very cold; severe gales in the middle of the month; the end calm and pleasant.—*Stowell Rectory.* A very warm month, temp. 3°·5 above the average. R near the average.—*Wells, Westbury.* Hard frost on the first 2 nights, the rest of the month very mild and damp.

VI. *Ross, The Graig.* A very warm month the temp. rising above 50° on 18 days, 13 of them consecutive, from 4th to 16th. This is the greatest number recorded. Although the R was above the average, there was much pleasant weather.

VII. *Brattleby.* The first 6 days were very cold with some excellent skating; the next 10 days were mild and open, and the remainder of the month was cold and wet.--*Bucknall.* Very fine and mild.--*Southwell.* Very warm and rather wet; mean temp. 4°, and R 1·00 in. above the average. S on only 2 days; only 7 frosts in the air.—*Mansfield.* Wet and stormy; commencing with frost, it became very mild on the 5th and continued so to the close. Gales very frequent from 5th to 28th.—*Hodsock Priory.* Very mild and stormy, with rather more than an average amount of both sunshine and R. Only two slight falls of S which soon melted. Mean temp. 4°·5 and R ·73 in. above their averages.—*Willington.* Very mild and stormy, with rapid and frequent changes of temp.—*Elvaston.* Very variable, remarkably warm at times, many storms principally from the S.W.; 8 frosty nights. Mean temp. 6°·8 above the average of 10 years.

VIII. *Macclesfield.* Very mild, with little S. Temp. rose to 50° on 10 days. From 20th to 27th very stormy.—*Birkdale.* Unusually cloudy and very stormy. R on 27 days, and the total much above the average,—*Seathwaite Vicarage.* The mildest January for several years, with an exceptional amount of R, but no very heavy falls.

IX. *Driffield.* Exceptionally mild and warm.—*Scarborough.* Very mild, with frequent and very sudden changes of temp.—*East Layton,* An ordinary winter month, with little severe frost. Much high wind about the middle.

X. *Whorlton.* Much wind and much R; S only on 1 day.—*Bingfield House.* Very mild. Heavy S.W. gales from the 22nd to 27th.—*Ulpha Vicarage.* Extremely mild; rough winds frequent in the latter half.—*Keswick, The Beeches.*—Remarkably stormy; S on 4 days, frost on only one.—*Keswick, Shu-le-Crow.* Very wet, three days with more than 1·00 in. of R.—*Cockermouth, Hassness.* The wettest month in four years, with high winds almost throughout.—*Blencowe School.* Unusually mild and, except about the middle, fairly quiet. R above the average.—*Windermere, Fallbarrow.* The wettest month since observations commenced in 1882—only 2 days being rainless—and unusually mild.—*Shap, Copy Hill.* Very changeable, R, H, S, sleet and frost at times, all occurring in 24 hours. S. and S.W. gales very frequent.

XI. *Llanfrechfa Grange.* Cold at the commencement, very stormy and warm in the latter part. Many days on which small amounts of R fell.—*Llandovery.* Very wet and stormy.—*Castle Malgwyn.* Un usually wet; many districts flooded and considerable damage done by wind.—*Douglas, Victoria Road.* A month of marked meteorological disturbance, characterized by gales of great violence, and almost phenomenal duration and intensity. Beginning on the 4th, these gales, all from the S.S.W. to S.S.E., lasted with more or less severity until the 26th, accompanied almost daily by R, and on the night of the 21st–22nd by torrents of R and H, vivid L, and abnormally loud and long peals of T. Temperature largely in excess, but R not above the average.

XII. *Melrose, Abbey Gate.* Very rough and unsettled, but essentially mild. Gales very frequent and R heavy.

XIII. *The Hangingshaw.* Mild and springlike, with W. and S.W. winds.

XV. *Oban, The Corran.* R exceptionally heavy; temp. high and equable.

XVI. *Stronvar.* Very stormy, with high winds and much R; temp. high, but very variable.—*Coupar Angus.* Warm, stormy and wet. Temp., with one exception, the highest in January for 10 years.—*Arbroath Cemetery.* R very near the average; mean temp. 2°·9 in excess.

XVIII. *Ben Nevis.* Fog or mist prevailed on the summit for 644 hours out of the 744 hours during the month. S fell on 26 days.—*Glenaladale.* Very wet and stormy, with high temp.—*Lochmaddy.* Very stormy throughout, with much R and S.—*Drumnadrochit.*

Excessive R and high temp. Wetter than any month in the preceding 4 years, and the R more than twice the average of January for those years.

XIX. *Scourie.* Extremely mild and very variable, with more than the average R, no frost, a few H showers, some violent gales from S.W., W., and W.N.W., one very heavy TS, one or two minor TSS, and several nights in which sheet L was exceptionally frequent. Heavy ground swells prevailed throughout.—*Watten H.R.S.* Exceptionally open and mild, but very variable, with a series of gales.

XX. *Coolkelure.* One of the wettest and stormiest months on record; scarcely a day without R, and almost always accompanied by high winds. Temp. exceptionally high.—*Darrynane Abbey.* Stormy, but very mild, frequent gales and remarkably heavy seas. —*Tipperary, Henry Street.* Wet and stormy throughout.—*Derry Castle.* —Stormy and very wet, only 2 days without R. Rough and damp to the 16th; furious S.S.W. and W. gales, with frequent S, H and sleet from the 17th to the close. R 3·37 in. above the average. Dense fog on 5 days; T and L on 4 days.—*Hurdlestown.* R 1·71 in. above the average, and number of wet days (30) the greatest recorded in any month. Severe gales were frequent and the wind was high throughout..—*Miltown Malbay.* Most tempestuous and wet, only 2 days without R. From 4th to 27th one series of tempests and gales, with furious seas on the coast.

XXI. *Edgeworthstown, Currygrane.* Very wet and remarkably stormy.

XXII. *Lawderdale.* Wet and stormy.

XXIII. *Carrablagh.* Very stormy, with S. and S.W. winds, and as a result extremely mild.

FEBRUARY.

I. *Lansdowne Crescent.* Cold and very dry. Of the total R, ·50 in. fell partly as S on the 14th. Frost in shade on 11 nights.—*Muswell Hill.* Dry, the R being 43 per cent. less than the average.

II. *Dorking, Abinger Hall.* Dry and cold. N.E. winds very prevalent.—*Wallington.* Dry and rather cold, without any very severe frosts. R less than half the average of 6 years. S on 2 days; fog on 4 days.—*Hythe.* Great prevalence of cold E. winds.—*Keston Tower.* Cold but pleasant; various flowers in bloom about 6 weeks before their time, and vegetation well advanced, but a good deal

nipped by frost.—*Sheppey, Leysdown.* Fine and dry; sunshine on most days, sometimes all day. Wind generally E. or S.E.—*Emsworth, Redlands.* Hard frost from 2nd to 12th, and 23rd to 28th. —*Maidenhead.* Rather cold and dry. Frost on 17 nights. Heavy S shower on 15th, S also on 27th and 28th.

III. *Broxbourne.* Wind E. or N.E. almost throughout, and frost on 21 nights.—*Throcking Rectory.* R 1·03 in. below, or less than half, the 10 years' average.—*Banbury, Bloxham.* A small R and great prevalence of N.E. and N.W. wind. Though the temp. was generally low there were many fine and pleasant days, but towards the end the weather became more gloomy.—*Northampton.* R less than half the average. Prevailing winds N.E., E. and S.E.—*Fulbourne Asylum.* Fine and mild to the 5th, when the temp. fell and continued low to the close, with N. and E. winds. Duration of bright sunshine above the average.

IV. *Walthamstow.* Dry, with frost on 15 nights; almost the entire R fell on 1 day.—*Sheering Rectory.* R less than half the average.—*Ipswich, Bishop's Hill.* Cold, dull and dry. R ·46 in. less than the average.— *Woodbridge, The Cedars, Melton.* Cold, unpleasant weather with E. winds.—*Diss.* The month began with warm, relaxing weather, much sunshine in the first fortnight but little afterwards, and colder —*Crimplesham.* Generally calm, and very dry; S on 2 days.

V. *Bishop's Cannings.* Frosts at night nearly all the month, with E. winds. Very dry, R less than one-third of the average.—*Hazelbury Bryan.* Cold and dry, winds N., N.E. and N.W. Primroses in full flower, and snowdrops abundant.—*Langton Matravers.* R remarkably small; with the exception of ·56 in. on 14th, only ·27 in. fell on 6 days.—*Babbacombe.* Cold and dry, with high pressure and an excessive amount of easterly wind. Nearly all the R fell between the 13th and 21st.—*Stowell Rectory.* Remarkably dry, R little more than a quarter of the average. Mean temp. 1°·6 below the average.

VI. *Cirencester, Further Barton.* Cold, dry and calm, with N.E. winds, much haze and the mornings often foggy.— *Cheltenham, Southam Villa.* R ·63 in., the smallest during 13 Februarys.—*Ross, The Graig.* Temp. and R much below the average; wind N. or E. on 26 days.

VII. *Southwell.* Cold and dry, more than half the total R fell on 1 day. S on only 4 days.—*Mansfield.* Dry and cold almost through out, with few severe frosts but many foggy nights. S on 4 days R only two-fifths of the average.—*Hodsock Priory.* Cold, dry (only

one fall of any consequence) and dull, with high pressure, and a large proportion of N.E. winds of light force. Mean temp. 4° lower than in January. Vegetation checked but not damaged. Cold and dry Februarys have occurred for five consecutive years, following on a series of mild ones which were mostly rather wet.—*Willington.* Very dry, with cold E. and N.E. winds.—*Elvaston.* Very dry, with very cold easterly winds on most days. No advance in vegetation. 10 frosty nights.

VIII. *Birkdale.* The driest February in 19 years, with the exception of 1873. An unusual prevalence of E. wind.—*Broughton-in-Furness.* Springs and streams everywhere very low, though 17 inches of R fell in December and January. Very little S.—*Duddon Valley, Seathwaite Vic.* Remarkably mild and dry, with the merest sprinkling of S, except on the fells.

IX. *High Harrogate.* Fogs and sharp frosts, with a few showers of S, and little R.—*Driffield.* Dull and overcast throughout; amount of cloud at 9 a.m., 9·1.—*East Layton.* A fine winter month, snowdrops and aconites in full glory, quite a month earlier than usual.

X. *Duddon Hall.* Very little R, fine days with frosty nights prevailing.—*Ulpha Vic.* [*Broughton-in-Furness*]. Exceedingly fine, with some hard frosts, but the days generally not severe.—*Blencowe School.* Quiet and like its predecessor, mild; R, far below the average, in fact almost *nil.* No February like it since 1875, when only ·79 in. fell.—*Hesket Newmarket, Hutton Roof.* During the early part of the month the weather was remarkably mild, with sunny days and frosty nights; after the 9th the E. winds were piercing and occasional slight falls of S occurred; from 21st to 25th the weather was again mild, with bright sunshine and foggy evenings. On 25th cold winds, with frost and slight S, returned.—*Shap, Copy Hill.* A fine winter month; very little S and R; work not stopped.

XI. *Llanfrechfa Grange.* Unusually dry and cold; N.E. winds.—*Castle Malgwyn.* Not much R; frosts rather severe; winds cold.—*Disserth, Glanhowey.* Very dry, with hot sun at times.—*Douglas.* Fair, open, spring-like weather until the 8th, succeeded by cold E. and N.E. winds and gales, which prevailed more or less to the end of the month. Sharp frosts on the last four nights.

XII. *Melrose, Abbey Gate.* Very dry and quiet, hardly any S or gales. S. and W. winds on 12 days, N. and E. on 16 days; R less than two-fifths of the average.

XV. *Oban, The Corran.* Exceptionally dry, with a considerable amount of sunshine and little frost.

XVI *Dollar.* Very dry and fine throughout.—*Balquhidder, Stronvar.* Very fine, with much frost, but not severe; mild days and warm sunshine between.—*Coupar Angus Station.* R small, an inch below the average; frost on 19 nights.

XVIII. *Ben Nevis Observatory.* Fog or mist on summit for 412 hours out of 672 during the month. S fell on 8 days.—*Loch Shiel, Glenaladale.* A most beautiful month, remarkably calm.

XIX. *Watten H.R.S.* Dry, open, fine and often mild; little frost.

XX. *Darrynane Abbey.* Only one gale and the sea calm, except on 3 days, when the weather was rough.—*Derry Castle.* Dry, with harsh E., N.E. and N. winds; land in excellent order; R little more than two-fifths of the average.—*Castle Lough.* A mild month, with very little frost.—*Broadford, Hurdlestown.* On the whole fine for the time of year. R ·13 in. below the average of 5 years.—*Miltown Malbay.* An average February. Ten days successive R in the middle delayed agricultural operations.

XXI. *Ravensdale School.* Mild and well suited for farming operations; R less than the average.

XXII. *Ballinamore, Lawderdale.* A dry, mild month.

XXIII. *Belfast, New Barnsley.* R and sleet on the 1st, then very fine till 14th. The 16th like a May day from 10 a.m. to 2 p.m., followed by foggy, close and dull weather till 23rd; then fine, with occasional frosts till the close. Scarcely any wind throughout, but very variable temp.—*Carrablagh.* Cold, with E winds and frosts at night, but little S.

MARCH.

I. *Finchley, Etchingham Park.* The first 10 days generally wet, followed by a dry week; R daily from 18th to 25th, the remainder dry.

II. *Wallington.* A great variety of temp. and a comparatively large R. Humidity 84; amount of cloud 6·3; sunlight 35 per cent. of the possible duration.—*Tenterden.* At first very cold and snowy, then warm and very wet from 18th to 25th.—*Keston Tower.* The first 5 days very cold, the remainder abnormally mild with much R.—*Leysdown.* Generally bright and dry, but very wet on 19th and 20th.

III. *Throcking Rectory.* R ·92 in. above the 10 years' average.—*Banbury, Bloxham.* Somewhat severe frost at the beginning of the

month, but there were 8 or 10 days of very pleasant weather, particularly at the end.—*Fulbourne Asylum.* The first week was extremely cold with S, the latter part of the month was very bright and warm.

IV. *Walthamstow.* Very severe for the first few days, then mild. Four days with temp. above 60°; frosts on 9 nights.—*Harlow, Sheering.* R within a tenth of an inch of the average of 20 years.—*Sudbury, Friars Street.* Very cold with S at the beginning of the month; much milder from the 10th to the close.—*Ipswich, Bishop's Hill.* Cold and dull; R 1·02 in. above the average.—*Diss.* March commenced with a heavy S storm, which lasted more or less till the evening of the 3rd, better weather followed, but S fell again on the 9th. There was heavy R on 18th and 19th, and again between 22nd and 25th, but yet the month after the first few days was extremely pleasant, with much bright sunshine. The last week was exceptionally brilliant.

V. *Bishop's Cannings.* Very cold in the first week, then dry and favourable, and warm and fine at the end. R ·79 in. below the average.—*Babbacombe.* Rather warm and showery, with great variations of temp., less R but more wet days than usual. S on 4 days. —*Stowell Rectory.* Fine and warm, temp. about 3° above the average.

VI. *Cirencester, Further Barton.* Very cold at the beginning with hard frost, even during the day, on 2nd, 3rd and 4th. A period of damp, windy weather followed, but the end of the month was very fine and dry, with clear sky.—*Ross, The Graig.* Very dry, and except during the first 4 days decidedly warm. The R of February and March together, was the smallest amount for those months since 1854.—*Burton, Derby Road.* The first 9 days cold and stormy, the remainder much warmer. R ·62 in. below the average.

VII. *Ketton Hall.* Cold and wintry for the first 5 days. The remainder of the month fine and bright, with the exception of 18th to 22nd.—*Southwell.* Mean temp. 2°·5 above the average.—*Hodsock Priory.* Mild with average R. Mean temp. the highest in March for 15 years, excepting 1882. A wet week from 19th to 24th, the rest of the month dry; vegetation forward.—*Willington.* Dry and mild, W. and S.W. winds predominating; an average number of rainy days, but the falls very light.—*Elvaston.* Cold at first, afterwards genial and generally very pleasant; 9 frosty nights; temp. 3°·8 above the average.

VIII. *Seathwaite Vicarage.* Exceedingly mild, with very little frost and less S.

IX. *Driffield.* Dry and bright, intensely cold on 3rd and 4th.—*East Layton.* Sharp frosts for a few nights followed by a few days of strong S.W. wind, after which the weather was all that could be desired.

X. *Nether Wasdale.* Unusually mild with a singular absence of wind.—*Blencowe School.* The first half unsettled, the latter half milder; fine days but very cold nights. R almost exactly the average.

XI. *Llanfrechfa Grange.* Milder than usual, with W. and S.W. winds, the latter part warm with a good deal of mist.—*Disserth, Glanhowey.* Generally warm, but cold at the beginning and end.—*Douglas, Victoria Road.* March came in with a black north-easter and sharp frosts, followed by rough stormy weather, strong N.W. gales and passing showers of S, H and sleet until the 16th; the last half of the month was fine on the whole, and much milder, with many beautiful bright days.

XII. *Melrose, Abbey Gate.* Singularly mild and open; no severe gales. Mean temp. 2°·4 above average; R 1·42 in. below average.

XIII. *Edinburgh, Blacket Place.* Fine on the whole, with no really cold weather and little S. Stormy at times during the first fortnight.

XVI. *Stronvar.* Very wet, but mild.—*Coupar Angus.* R ·46 in. below the average.

XVIII. *Glenaladale.* A boisterous month, very bad up to the 20th, after which the weather improved.

XIX. *Scourie.* The first half was stormy and cold, with some S and frost; the remainder fine.—*Watten, H.R.S.* A series of gales in the first half; the latter half cold and cloudy.

XX. *Derry Castle.* Opening and closing days fine; harsh and wet from 7th to 28th, with frequent falls of sleet, H and S. R and number of wet days both slightly above the average.—*Miltown Malbay.* As bad for agriculture as any March remembered. A dripping month without much heavy R, and although free from the usual harshness, raw and ungenial.

XXII. *Lawderdale.* Mild and seasonable.

XXIII. *New Barnsley.* Altogether fine and open, and vegetation well forward without being forced.

APRIL.

I. *Lansdowne Crescent.* Temp. and R near the average. Northerly winds prevalent at the end of the month.—*Muswell Hill.* R 12 per cent. less than the average.

II. *Wallington.* Cold, with about the average R.—*Hythe.* Showery, with cold N.E. winds.—*Keston Tower.* Pleasant, with a fair amount of R.—*Sheppey, Leysdown.* Unusually dry and fine up to 25th, with E. winds.—*Emsworth, Redlands.* Strong winds; hot sun; cold nights.

III. *Throcking Rectory.* R only ·54 in., 1·16 in. below, or less than one-third of, the 10 years' average.—*Banbury, Bloxham Grove.* The first fortnight fine, but generally cold. From the 14th to the 26th gloomy, stormy and cold, thence to the end fair, with two very pleasant days.—*Northampton, Haslewood Road.* R ·76 in. below, or four-sevenths of, the average.—*Cambridge, Fulbourne Asylum.* A fairly seasonable month, the max. in sun rising to 100° on 22 days. R the smallest recorded here.

IV. *Walthamstow.* Cold on the whole, with average R.—*Ipswich, Bishop's Hill.* Dull and cold; R less than two-thirds of the average. —*Diss.* The month commenced with five brilliant days, though the wind was cool; the remainder was fair April weather. R small; gales on 4 days.—*Downham, Crimplesham.* R remarkably small, only ·29 in., but falling on 10 days.

V. *Marlborough, Mildenhall.* The R of the first 4 months of the year, 6·26 in., is the smallest during 25 years.—*Bishops' Cannings.* Warm at the beginning, cold in the middle, and warm again at the close; E. winds prevalent; R ·47 in. below the average.—*Torquay, Babbacombe.* Rather cold and wet; sunshine deficient, and R on almost every day from 6th to 29th. Solar halos seen on 11 days, the greatest number recorded in any month.

VI. *Cirencester, Further Barton.* The first five days fine and dry, but cold; the remainder very changeable, with R in small quantities. —*Ross, The Graig.* Although the R was small, there were few bright genial days, and the first 5 nights were frosty. Wind generally from a polar quarter.—*Burton, Derby Road.* Very cold from the 6th to the 19th, the temp. of the remainder being normal; R 1·13 in. below the average.

VII. *Ketton Hall* [*Stamford*]. Dry, with a few bright days. Severe frosts on 1st, 2nd, 4th, 5th, 11th and 12th; E. wind on 16 days.— *Brattleby.* Very dry, but cold; not a spring day throughout; grass

and vegetation at a standstill; 21 frosts and some very severe ones. *Horncastle, Bucknall.* An April of unprecedented drought and crops suffering in consequence; E. winds prevailed.—*Southwell.* Very dry, R 1·25 in. below, and temp. 2° above, the average.—*Hodsock Priory.* Fine and dry, with frequent frosts at night. R badly wanted at the end.—*Willington.* Dry and free from cloud, with cold nights.—*Elvaston.* Very fine and dry, but cold winds very frequent. Severe frost during the first few days, 8 frosty nights.

VIII. *Seathwaite Vicarage.* Generally rather cold, but without the damaging frosts which, not unfrequently, accompany a brighter season. R moderate.

IX. *Driffield.* Generally dry and sunny, except from 13th to 18th.—*East Layton, Darlington.* A dry, but on the whole, cold month, N. and N.E. winds prevailing; frost on 11 nights.

X. *Duddon Hall.* Springlike weather, with cold nights. Cold E. winds from 11th to 18th.—X. *Ulpha Vic.* [*Broughton-in-Furness*]. Cold E. winds prevailed, but the days were generally cheered by sunshine.—*Nether Wasdale Vic.* Unusually dry. The first part warm, the latter colder, with hoar frosts.—*Hutton Roof.* Bright warm days, with frost at night during the early part of the month. From 7th to 22nd E. winds and bitterly cold, the remainder much milder, with pleasant showers. *Blencowe School.* R a little over half the average.—*Mealsgate, Uldale Rec.* Cold and unpleasant, with E. winds, but an almost total absence of night frosts.

XI. *Llanfrechfa Grange.* Cold at the beginning, with frosts on the ground. Warm at the end of the month.—*Castle Malgwyn.* Rather dry. Exceedingly cold in the first part, but the latter part warm.—*Douglas, Victoria Road.* With much cold E. and N.W. wind, and R in small quantity on no less than 18 days, April was a brilliantly fine month.

XII. *Melrose, Abbey Gate.* Cold and ungenial. R little more than one-third of, and number of wet days six below, the average. N. or E. winds on 14 days.

XIII. *Selkirk, The Hangingshaw.* Generally cold and inclement.

XVI. *Coupar Angus Station.* Cold and dry, with N. and E. winds and frost on 13 nights. R less than one-third of the average.—*Dalnaspidal, H.R.S.* S on 9 days.

XVIII. *Ben Nevis Observatory.* Mist or fog on summit for 427 hours. S on 14 days.—*Loch Shiel, Glenaladale.* Beautiful and genial; vegetation forward.—*Loch Ness, Drumnadrochit.* Cold and dry as a

rule, without any hard frost; E. and N. winds from 11th to 19th; R less than average.

XIX. *Scourie.* Dry for the most part, but cold until towards the close.—*Watten, H.R.S.* Generally cold aud cloudy, but dry. No great gales.

XX. *Derry Castle* [*Killaloe*]. The driest April recorded; R 60 per cent. below the average of 10 years.—*Broadford, Hurdlestown.* The first part cold, but favourable as a whole.—*Miltown Malbay.* More like March than April, with strong cold N. and E. winds; R small.

XXI. *Mullingar, Belvedere.* H on 8th, 9th, 21st, 22nd and 23rd.—*Edgeworthstown, Currygrane.* Fine generally, and most suitable for farming operations.

XXIII. *New Barnsley.* The first five days very fine, but frost at night. Cold from 6th to 19th, then grand spring weather to the end.

MAY.

I. *Lansdowne Crescent.* Very fine and warm. Three-fourths of the total R fell before the 12th.—*Muswell Hill.* R 29 per cent. less than the average; 8 consecutive wet days, from 4th to 11th.

II. *Wallington.* Warm and genial with a rather short R, so that though crops started well they became rather parched for want of R towards the end of the month. Sunlight above the average.—*Hythe.* Dry and very fine, but with cold N.E. winds.—*Keston Tower.* Very fine and seasonable, with only a moderate amount of R.—*Emsworth, Redlands.* Hot sun; cold nights. Excessive heat from 24th to 27th.

III. *Throcking Rectory.* R ·15 in. below the 10 year average.—*Banbury, Bloxham.* With the exception of some heavy rains from 5th to 11th, the month was mostly fine, with a great prevalence of N. winds.—*Northampton, Hazlewood Road.* Hot days and cold nights prevailed; R slightly below the average.—*Cambridge, Fulbourne Asylum.* Fine dry weather; cold nights but no frost.

IV. *Ipswich, Bishop's Hill* On the whole fine and bright, with few frosty nights. R ·39 in. less than the average.—*Diss.* Fine, with warm summer-like weather, and some cool days in the third week. R fell on only 9 days, but a heavy fall on 9th and 10th (1·32 in.) came very opportunely to prevent ill effect from the hot, dry weather of the following weeks.

V. *Bishop's Cannings.* A very favourable month, with just the

average R. No frosts till the 31st.—*Babbacombe.* Rather warm, damp and cloudy, with a generally low barometer, but fewer wet days and less R than usual.—*Temple Combe, Stowell Rectory.* Very dry, with average temp.

VI. *Cirencester, Further Barton.* Fine on the whole, but unsettled, with much variation of temperature. Warm and cloudless on 23rd, 24th and 25th. Frost at night on 30th and 31st.—*Ross, The Graig.* Fine on the whole, with very few frosts. Though generally cool, it was specially fine and warm from 22nd to 25th.—*Burton, Derby Road.* Fine and warm; R ·23 in. below the average. Three frosts on grass.

VII. *Ketton Hall* [*Stamford.*] Changeable with nice rains and a fair amount of bright weather. Wind E. on 17 days.—*Brattleby.* Fine and extremely bright, with some hot days; crops looking well.—*Southwell.* R 1·25 in. above the average; most of the R fell between the 5th and the 12th. Little R from the 19th to the 10th of June. —*Hodsock Priory.* Fine and mild, with a few sharp ground frosts at the beginning, and a week of thundery and showery weather from the 5th to 12th, which was much needed. R was wanted at the end of the month.—*Elvaston.* Genial and very pleasant on the whole; dry during the latter half; no frost. Temp. 2°·7 above the average.

VIII. *Duddon Valley, Seathwaite Vicarage.* A favourable month for vegetation, with more than the average R, but a somewhat low temperature except in the latter part.

X. *Barnard Castle, Whorlton.* Generally cold, with high winds from E. and N. in the last week.—*Ulpha Vicarage* [*Broughton-in-Furness.* Generally bright. Temperature low during the last week, but no frosts.—*Nether Wasdale.* Warm and genial, the season being considered the finest since 1824.—*Blencowe School.* On the whole a charming month. Temp. fell at close and a cold helm wind prevailed. R slightly above the average.

XI. *Llandovery.* Dry and warm on the whole.—*Douglas, Victoria Road.* The month commenced with bright and warm spring weather, followed from 10th to 21st by a daily record of R, strong cold winds and N.E. to S.E. gales. The 22nd and 23rd were almost summer days, and fine bright weather continued to the 28th, but with cold S.E. winds. The month closed with strong cold N.E wind, more like November than May.

XII. *Melrose, Abbey Gate.* A fine month; wind N. or E. on 18 days. R ·70 in. below the average.

XVI. *Balquhidder, Stronvar.* The earliest season on record, the

slight touch of frost towards the end not damaging the crops.—*Coupar Angus Station.* R nearly three-fourths of the average. Temp. 1°·6 above the average.

XVIII. *Ben Nevis Observatory.* Mist or fog on summit, for 380 out of 744 hours; S on 7 days.—*Loch Shiel, Glenaladale.* An extraordinarily beautiful month, very hot till the last week, which was chilly.

XIX. *Scourie.* Abnormally hot and dry until about the close, when became colder with H showers.—*Watten, H.R.S.* The first 3 weeks mild, fine and often bright; the last week cold and sunless, with keen N.E. winds.

XX. *Darrynane Abbey.* Very changeable and unsettled, a few very fine days, but on the whole cold and stormy.—*Derry Castle* [*Killaloe*]. A favourable month, showery every day but two from 1st to 21st, thence to the end generally dry. Warm in the day but cool nights. High winds frequent. R slightly below the average.—*Broadford, Hurdlestown.* Excepting 1887, this was the finest May on record. R ·63 in. below the average of 5 years.—*Miltown Malbay.* A dripping cold month, giving no heat except from the 25th to the 29th.

XXI. *Ravensdale School.* Weather very favourable for agricultural purposes.—*Edgeworthstown, Currygrane House.* On the whole cold, but favourable for farming.

XXII. *Tuam, Gardenfield.* R below the average, the last week being specially dry with a very severe frost on the night of the 30th.—*Ballinamore, Lawderdale.* The first half of the month wet, and the last half dry and seasonable.

XXIII. *New Barnsley.* Very fine till the 15th, favourable rains falling on that and the two following days. The remainder exceptionally good for vegetation.—*Letterkenny, Carrablagh.* Wind generally easterly till the 29th, and as a result dry weather.

JUNE.

I. *Lansdowne Crescent.* Cold and dull. The wettest June since the record commenced in 1882.—*Muswell Hill.* The wettest June since 1884, the R being 41 per cent. above the average.—*Finchley, Etchingham Park.* Very wet, particularly as regards the large number of rainy days; there being no three consecutive days without R.

II. *Wallington.* Cool, wet and sunless, the R being ·95 in. above

the average of 6 years. Duration of sunlight, only two-thirds of the average.—*Tenterden.* Cold and showery, except about midsummer day.—*Hythe.* Cold, dull and showery.—*Keston Tower.* Very cool, with much R, especially in the last few days.—*Sheppey, Leysdown.* The days generally cloudy or wet, and the nights cold.

III. *Throcking Rectory.* R ·48 in. below the 10 years' average.—*Bloxham Grove.* The first 8 days fine and dry, the remainder rather showery.—*Northampton, Hazlewood Road.* R ·46 in. below the average of 25 years.—*Fulbourne Asylum.* Many genial days, but very few warm nights; T frequent towards the end; less sunshine than in May.

IV. *Walthamstow.* Cold and unseasonable, with R much above the average.—*Ipswich, Bishop's Hill.* Very cold and dull; R ·11 in. less than the average.—*Diss.* A good deal of R and of pleasant weather, with no extremes of temp.

V. *Bishop's Cannings.* Favourable on the whole till near the end, when continuous heavy R spoilt much hay. R ·94 in. above the average.—*Babbacombe.* Damp, showery, changeable, and rather cold and cloudy.—*Stowell Rectory.* Remarkable for deficiency of bright sunshine (only 91 hours) and for heavy R.

VI. *Ross.* Fine till towards the end; pleasant but not hot.

VII. *Southwell.* Cold, dull and rather wet.—*Hodsock Priory.* Very dull, with about average temp. and R, but without any warm summer weather; the greater part of the R fell in the last week. Corn and root crops were looking well, but haymaking was much hindered by the R; warm sunny weather was much wanted.—*Elvaston.* Fine and dry, but with much cloud and fresh wind from W.

VIII. *Seathwaite Vicarage.* The most rainy June for some time.

IX. *Driffield.* Dull and very dry to the 24th, then 6 wet days.—*Scarborough.* Somewhat cloudy and cool till the last week, which was showery and cold.—*East Layton Hall.* The latter days were showery, sunless, and very cold; R above the average.

X. *Bingfield House.* The early part was fine; the latter part very wet.—*Pawston* [*Coldstream*]. Decidedly cool and wet, with the first June flood for several years.—*Ulpha Vicarage.* A month of continuous R and low temp.—*Nether Wasdale.* Wet, cold and dull, said to be the worst June since 1866.—*Hutton Roof.* Unseasonable; sunshine being the exception and inky skies the rule.—*Keswick, The Beeches.* Cold and showery, with a great deficiency of sunshine.—*Blencowe*

School. R about half-an-inch below the average; weather generally unsettled and black.

XI. *Disserth, Glanhowey.* Generally cool and damp.—*Douglas, Victoria Road.* Cold, wet and sunless. Temp. below the mean throughout, and R nearly 1·50 in. above the average.

XII. *Melrose, Abbey Gate.* Very unsettled, but no gales, and only one night frost; R ·84 in. above the average.

XIII. *The Hangingshaw.* The coldest and wettest June for many years.

XV. *Oban, The Corran.* Wet, cold and very sunless.

XVI. *Dollar.* Cold and wet throughout.—*Coupar Angus.* Warm nights and wet, sunless days. R large, but no floods.

XVIII. *Glenaladale.* Cold, wet and stormy.—*Drumnadrochit.* Unusually wet, cold and dull.

XIX. *Scourie.* Cold, with little sunshine, and R above the average.

XX. *Coolkelure.* Very wet and sunless.—*Darrynane Abbey.* Very cold and wet, more like March than June.—*Derrycastle.* Very showery, only six rainless days. Total R, ·56 in., and number of rainy days considerably, above the average.—*Castle Lough.* Rainy and cold; very few dry days.—*Miltown Malbay.* Very wet and very cool; only three days without R.

XXI. *Currygrane.* A very damp month, yet water was extremely scarce.

XXII. *Lawderdale.* Wet and unseasonable.

XXIII. *Carrablagh.* Not one day without a measurable quantity of R.

JULY.

I. *Kensington, Edith Road.* Very wet, total R 4·19 in., of which 4·11 in. fell on the first 18 days.—*Lansdowne Crescent.* Very wet. Excepting 1888, the coldest July since 1879, mean temp., 59°·8.—*Muswell Hill.* The wettest July since 1875, the R being 82 per cent. above the average.—*Finchley, Etchingham Park.* A very wet month, remarkable for the greatest R in any month (5·13 in.) and the max. fall in 24 hours (2·56 in.) since observations commenced in 1885.

II. *Wallington.* The first 18 days were wet and cool; the remainder dry and warm. R very large, being 3·33 in. above the average of six years.—*Hythe.* Very unsettled and showery, with low temperature.—*Keston Tower.* Cold and windy, very little sunshine, and much R; temperature greatly below the average.—*Sheppey, Leysdown.*

Wet and cold in the early part, and bright sunshine and really warm weather deficient throughout.

III. *Throcking Rectory.* R 1·05 in. above the average.—*Banbury, Bloxham Grove.* Generally gloomy, with low temperature at night, frequent showers and some heavy R. A few pleasant warmer days, towards the close.—*Northampton, Hazlewood Road.* Westerly winds prevailed with high temperature suitable for hay harvest. R ·21 in. above the average.—*Pitsford, Sedgebrook.* Very cold, the temp. rising to 70° on only 8 days. From 1st to 18th there was constant R; from 19th to 26th no R fell, but the close was wet. No T or L.—*Cambridge, Fulbourne Asylum.* The early part was dull and wet, with a great lack of warm nights. After the 20th the weather was fine and warm.

IV. *Walthamstow.* Thundery and very wet. Three days with more than an inch of R, and the total fall almost double the average.—*Ipswich, Bishop's Hill.* Dull and cold generally. R 1·22 in., or 50 per cent., more than the average.—*Diss.* July began with a perfect summer day, bright and warm, but this was followed by nine wet, coolish days with little sun, and the 17th and 18th were very wet.

V. *Bishop's Cannings.* Disastrous for haymaking. Corn much laid, and no honey gathered since June 24.—*Hazelbury Bryan.* Characterized by low temperature and an excessive number of wet days.—*Babbacombe.* Cold, showery, damp, cloudy, gloomy, and unsettled. There were no two consecutive rainless days, though no measurable quantity fell on the four days 21st to 24th. Temp. low from 1st to 18th, and only four days with a max. above 70° in the whole month.—*Temple Combe, Stowell Rec.* Low temperature (2° below average) and average R. Cloud and humidity at 9 a.m., high throughout.

VI. *Cirencester, Further Barton.* Very wet, warm, and windy. The mornings frequently fine, and the evenings cloudy. Wind chiefly S.W.—*Ross, The Graig.* Cool, cloudy, and unsettled. R and number of wet days in excess, but heavy falls on only two or three days.—*Burton, Derby Road.* Cold and damp. R fell on 25 days, but the amount was ·66 in. short of the average.

VII. *Ketton Hall,* [*Stamford.*] A rainy month without any settled weather. Westerly winds on 26 days.—*Horncastle, Bucknall.* R not excessive, but the sky almost constantly overcast, with low temp. both by day and night.—*Brattleby.* Dull but fairly warm. A good deal of R, but no excessive fall, having been evenly distributed.—

Worksop, Hodsock Priory. Cool, showery, and cloudy, with an absence of any really warm weather. R slightly below the average.—*Willington.* Cool and cloudy, with many very light showers. R hardly sufficient, and drought only averted by the cool, cloudy weather.—*Elvaston.* Showery, windy, and cool; no large falls of R. Much cloud and no high temperature.

VIII. *Knutsford.* Cool till the 11th, but afterwards warmer. No very heavy R, and no TSS.—*Duddon Valley, Seathwaite Vic.* Exceptionally rainy, with temp. uniformly below the average.—*Birkdale.* Great prevalence of light W. winds with cloudy skies. R decidedly below the average.

IX. *Driffield.* Dull and warm with frequent R in small quantities.—*Scarborough, West Bank.* Cold, cloudy and ungenial during the first twelve days; warmer afterwards, but very cloudy.—*Thixendale.* Remarkably cold early in the month.—*East Layton.* Anything but a real summer month; generally very cold and never very warm

X. *Ulpha Vic.* [*Broughton-in-Furness.*] Wet, with no high temperature.—*Nether Wasdale Vic.* Cold and dull, with a singular absence of sunshine.—*Blencowe School.* R about an inch below the average, but its falling almost continuously made the weather anything but desirable.—*Shap, Copy Hill.* Cold and wet.

XI. *Llanfrechfa Grange.* Low temp. and absence of sun. R and rainy days about the average.—*Oystermouth, Newton.* Wet and stormy with cold winds.—*Castle Malgwyn,* [*Llechryd.*] Dull and damp, very little sun.—*Rhayader, Nantgwillt.* A very remarkable month; with 28 rainy days, it had only a little more than half the average fall. Every month since January has had less than the average and water is as scarce as, or scarcer than, in 1887.—*Douglas, Victoria Road.* An unbroken record of daily strong winds and gales from S.W. to N.W. Cold, ungenial, and no thought of summer.

XII. *Melrose, Abbey Gate.* Exceedingly cool and unsettled, with very little sunshine. Mean temp. 1°·5 below the average; frost on one night. R two-thirds of the average, but rainy days 8 above the average. Wind S. or W. on 26 days.

XIII. *Selkirk, The Hangingshaw.* Dull, showery, and cold, with very little sunshine.

XVI. *Balquhidder, Stronvar.* Very wet and cold, the night temperature very low throughout.—*Coupar Angus Station.* Cold and sunless; temp. 2° degrees below the average. R above the average.

XVIII. *Ben Nevis.* Mist or fog prevailed on the summit for 535

hours. S fell on 11 days.—*Loch Shiel, Glenaladale.* Wet, cloudy, cool, and sunless.—*Loch Ness, Drumnadrochit.* Very cold, with frequent N. and E. winds.

XIX. *Scourie.* Very little sunshine, and copious rains. Temp. very low throughout.—*Watten, H.R.S.* The first half cold and wet, sometimes stormy, followed by a few fine days. The remainder mostly wet, some days being mild, and some very cold.

XX. *Darrynane Abbey.* Another bad, cold month. Potato crop quite ruined.—*Derry Castle.* Very showery and disagreeable. The first four days fine, but from the 5th to the close only four rainless days and no two consecutive. The atmosphere was constantly saturated, and the weather was wretched for hay saving. R ·53 in. below, but number of wet days above, the average. —*Castle Lough.* Rainy and cold, with few dry days. Temp. at night frequently low. *Broadford, Hurdlestown.*—A wet month. All crops, except roots, in a bad way.—*Miltown Malbay.* Rainy and cold; only 13 rainless days in the three months, May to July.

XXI. *Currygrane.* Although the total R was not great, the number of rainy days was exceptionally so.

XXII. *Tuam, Gardenfield.* Wet and cold; the last week very wet. Potatoes greatly injured by the R and want of heat.—*Ballinamore, Lawderdale.* Continuously wet and unseasonable.

XXIII. *New Barnsley.* Showery throughout; temp. very variable in the early part.—*Letterkenny, Carrablagh.* Much slight R, but no floods nor thunderstorm rains.

AUGUST.

I. *Muswell Hill.* R ·69 in. or about 26 per cent. above the average.—*Finchley, Etchingham Park.* Though the total R was only the average, its falling on 17 days made the month appear very wet.

II. *Wallington.* Dull, cool and wet. R ·68 in. above the average of 6 years.—*Tenterden.* Fine and warm at first; cold and wet, with frequent TSS after the 9th.—*Hythe.* Unsettled, wet and cold, with very little sunshine.—*Keston Tower.* Cold and dull; temp. much below the average, and many rainy days, but not much R in the aggregate.—*Lewes, Iford.* Very wet and cold; great damage to crops. —*Emsworth, Redlands.* Wet, with much wind and no summer heat.

III. *Bloxham Grove.* The first 8 days were fine and warm, followed by broken weather till 28th; the last three days fine, but cold.—

Northampton, Hazlewood Road. R ·59 in. below the average of 24 years.—*Pitsford, Sedgebrook.* Cold and wet, although the R was below the average.—*Fulbourne Asylum.* Remarkable for lowness of shade temp.; great prevalence of wind and scanty R.

IV. *Sheering.* R ·68 in. above the average of 20 years.—*Ipswich, Bishop's Hill.* Many heavy short showers, with T in the last half, but drying winds between. The last week very cold, with several white frosts, R just the average.—*Diss.* Rather wet, and very cold, particularly in the last week.

V. *Babbacombe.* Cold, showery and unsettled. R fell on the 1st, and on nearly every day after the 9th.

VI. *Cirencester, Further Barton.* Showery, with no settled weather, but only one really wet day; a few days in the first week might be called hot.—*Ross, The Graig.* Generally unsettled, without much warm weather.—*Burton, Derby Road.* Cold and damp. R fell on 21 days, but the amount was ·23 in. deficient.

VII. *Ketton Hall.* Very changeable and showery, without much R. —*Bucknall.* Favourable for harvest, for although R fell frequently, it was quickly followed by strong winds which speedily dried the corn again.—*Brattleby.* A miserable month; harvest much hindered by frequent storms, fortunately the weather was cold, and high winds prevailed, or it would have been utterly ruined.—*Southwell.* Cold and showery after the 10th; harvest hindered, but not damaged.—*Hodsock Priory.* A cool month, with an absence of really warm weather. R slightly below the average, but the last 10 days were rather showery, which hindered the harvest, though without doing any damage.—*Elvaston.* Variable, with considerable electrical disturbance and heavy showers. Temp. 2°·2 below the average.

VIII. *Seathwaite Vicarage.* Rainy, with low temp.

IX. *Thixendale.* TSS frequent from 24th to the end of the month. —*Scarborough.* Very cold, excepting the first few days, but some sunshine almost every day. R 1·30 in. above the average.—*Richmond, The Grove.* Heavy R, 6·42 in., which has only been exceeded in four months since January, 1876.—*East Layton.* Most unsatisfactory; want of sun and over abundance of R.

X. *Seaham Vicarage.* Wet and ungenial.—*Bingfield House.* Very wet and cold.—*Ulpha Vicarage.* Broken and changeable throughout, with the exception of the four days 6th to 9th.—*Nether Wasdale.* The first part dull and dark, with low temp., the latter half hot

and damp.—*Keswick, The Beeches.* Fine till the 12, thence to the 28th cold, showery and unseasonable. The closing days of the month fine, but cold.—*Blencowe School.* Most disheartening all round, not, however, from extremes, except the number of days upon which R fell, and the almost total absence of sunshine. The last three weeks were disastrous to crops of all kinds, potatoes blighted, corn thrown down, and growing a second time, and hay spoiled beyond recovery.—*Shap, Copy Hill.* Dark, cold and wet.

XI. *Disserth, Glanhowey.* Unusually wet and very cold.—*Llwydiarth Esgob.* The worst harvest month, except in 1879, since 1861.—*Douglas, Victoria Road.* A wretched month, cold and gloomy, with strong westerly winds throughout. The temp. never rose to 70°.

XII. *Melrose, Abbey Gate.* Very changeable and unfavourable; frost on four nights. R 1·89 in. above the average.

XIII. *The Hangingshaw.* Cold, dull, wet and stormy.—*Edinburgh, Blacket Place.* Very unsettled and wet, though only two days were without sunshine.

XVI. *Stronvar.* Cold and wet, with very little sun.—*Coupar Angus.* R ·75 in. below the average of 10 years, but number of wet days above the average.

XVIII. *Glenaladale.* Very wet, cool and sunless, and on the whole calm.—*Drumnadrochit.* Wet, with low temp. throughout.

XIX. *Scourie.* With the exception of fine warm weather from 6th to 13th, wet and unseasonable throughout.—*Watten, H.R.S.* Wet; no great fall, but almost daily dropping.

XX. *Darrynane Abbey.* Cold and ungenial, with a few very fine days.—*Derry Castle.* The first week fine, constantly wet from 9th to 27th, and the closing days again fine; R ·14 in., and wet days two above the average.—*Castle Lough.* The latter part rainy, but the total fall not excessive; springs very low; temp. low as a rule.

XXI. *Currygrane.* Although the R was not very great, the number of wet days was quite phenomenal.

XXII.—*Lawderdale.* Wet and unseasonable.

SEPTEMBER.

I. *Kensington, Edith Road.* Singularly warm, dry and sunny, temp. exceeding 70° on 15 days.—*Lansdowne Crescent,* Very bright and warm after the 3rd; the temp. being uniformly high and rising

above 70° on 16 days. The driest September during 9 years, R falling on only 5 days.—*Muswell Hill.* The driest September since 1878. R only 45 per cent. of the average.—*Finchley, Etchingham Park.* Very dry, absolute drought prevailing for 19 days, from August 29th to September 16th, and also from 24th to 30th.

II. *Wallington.* Very dry, warm and sunny; R only ·61 in., and no less than 2·17 in. below the average of 6 years.—*Tenterden.* Very warm and dry except from 17th to 21st, when severe TSS occurred. —*Hythe.* Very fine; the driest September since 1865.—*Keston Tower.* Very fine and pleasant with very little R, and temp. greatly above the average.—*Lewes, Iford.* Very fine, a drought of 19 days ending on 17th.—*Emsworth, Redlands.* R little more than a quarter of the average of 6 years; absolute drought for 20 days ending the 17th. Occasional great heat and warm nights.—*Maidenhead.* Very fine and warm, only ·03 in. of R between the 1st and 17th.

III. *Broxbourne.* Remarkably dry, fine and warm.—*Throcking Rectory.* R 1·84 in. below, or only one-fourth of, the average, and considerably less than the fall in any September of the previous 10 years. Temp. 3°·2 above the average and only 0°·4 lower than the mean temp. of September, 1880, the warmest September in 10 years. The max. on 27th (77°·1) was the second highest temp. registered during the year.—*Oxford, St. Giles.* Fine, warm and pleasant. Rivers low, and the country very dry.—*Bloxham Grove.* Most delightful; bright, clear and warm, with some hot days.—*Castle Ashby.* The smallest R in September for 17 years.—*Northampton, Hazlewood Road.* R 1·92 in. below the average.—*Pitsford, Sedgebrook.* Only ·02 in. of R fell between 1st and 17th, the weather between those dates being frosty and foggy in the early morning, and fine and bright afterwards. No R fell after the 22nd.—*Fulbourne Asylum.* Fine and genial with much sunshine. R only ·24 in., falling mostly at night.

IV. *Walthamstow.* Very dry, warm and clear.—*Harlow, Sheering.* The driest September for 20 years. R only ·39 in. and 2·25 in. less than the average.—*Sudbury, Friars Street.* Fine, with high temp. and plenty of sun.—*Ipswich, Bishop's Hill.* Very fine, bright, warm and dry. R 1·34 in. less than the average.—*Woodbridge, Melton.* Unusually bright, warm and sunny days; nearly all of the little R falling at night.—*Rendlesham Hall.* Very fine and warm, with a few slight TSS.—*Diss.* A month of perfect weather, warm and bright. The little R fell principally at night, and with the exception of some

T on 17th and 18th and a heavy shower on 21st there was no disturbance whatever.—*Denver Rectory.* Remarkably dry and fine.—*Downham, Crimplesham.* R very small, the smallest ever recorded in September.

V. *Bishop's Cannings.* Splendid weather up to the 19th. R 1·02 in. less than the average.—*Hazelbury Bryan.* The first 16 days rainless and warm; then a week of broken showery weather, and the last 7 days again dry and warm.—*Babbacombe.* Warm, fine and sunny, with few wet days and a very small R, but damper air than usual. With the exception of ·01 in. of fog on 9th, no R was recorded from 2nd to 16th inclusive, but it was showery from 17th to 24th. The temp. rose to or above 70° on 4 days, the same number as in the preceding 3 months.—*Brampford Speke.* Warm and lovely for the greater part.—*Stowell Rectory.* Unusually warm; mean temp. 2°·6 above the average.

VI. *Almondsbury.* A dry month; absolute drought prevailed from August 29th to September 16th inclusive.—*Further Barton.* Splendid weather, often cloudless, until after the 15th when it became unsettled.—*Cheltenham.* A beautiful month, the temp. rising above 70 on 11 days.—*Ross, The Graig.* Exceedingly fine; nearly the whole R occurred in the week ending 23rd, the total being little more than half the average. There were no frosts even on grass, and the temp. rose above 70 on 13 days.—*The Clive Vicarage.* R wanted badly at the close.—*Burton, Derby Road.* Warm and dry. The R was the smallest in September during 14 years, and 1·67 in. below the average.

VII. *Horncastle, Bucknall.* R the smallest recorded in September during 18 years. Drought becoming very pronounced at the end.—*Brattleby.* Remarkably hot, fine and bright almost throughout.—*Southwell.* Very warm, dry and sunny; temp. 3°·5 above, and R 1·50 in. below, the mean.—*Hodsock Priory.* Very fine, mild and dry, just what was wanted.—*Willington.* Fine and warm with much sunshine.—*Elvaston.* Very fine, warm and pleasant, excepting from the 18th to 24th. Temp. 4° above the average.

VIII. *Seathwaite Vicarage.* Wet and altogether unfortunate from an agricultural point of view, although it was warm and bright from 7th to 16th.

IX. *Driffield.* Genial and warm, with 12 successive rainless days.

X. *Whorlton.* Fine and warm in the early part, R and wind later.—*Duddon Hall.* Warm and bright from 6th to 16th, the remainder wet throughout.—*Duddon, Eskdale.* Very wet excepting a short interval

about the middle.—*Blencowe School.* Tedious for reapers; there was a spell of fine weather from the 4th to the 17th, but after that R fell in every consecutive 24 hours.—*Uldale Rectory.* Until the equinox the weather was fairly good, but afterwards R fell every day.

XI. *Llanfrechfa Grange.* The early part of the month hot and close, with 15 rainless days from 2nd to 16th.—*Douglas, Victoria Road.* September began with wretched weather, but from 4th to 16th bright warm weather prevailed; the remainder of the month was a daily record of strong winds, gales and R.

XII. *Melrose, Abbey Gate.* Very fine, dry and unusually warm. R ·75 in. below the average.—*Edinburgh, Blacket Place.* Very fine and sunny; mean temp. 5°·3 above the average.

XVI. *Coupar Angus.* Mean temp. the highest in September for 10 years. R slightly above the average.

XVIII. *Glenaladale.* A wet, calm and warm month.—*Drumnadrochit.* The first three weeks were hot, genial and summer-like.

XIX. *Scourie.* Some very hot days occurred, but for the most part the weather was variable and unsettled.—*Watten, H.R.S.* Very fine and mild, with more than an average amount of sunshine.

XX. *Waterford, Brook Lodge.* It is remarkable that the springs about Waterford were very low, although there was three times as much R as in September 1889, and the total of the year up to date was 6 inches more.—*Derry Castle.* Opening days gloomy and misty; grand harvest weather from 6th to 15th; but frequent showers, heavy R and generally gloomy weather from 16th to the close. R ·96 in. above the average.—*Hurdlestown.* Wet, but very mild. R ·91 in. above the average of 5 years.—*Miltown Malbay.* Very wet, 25 rainy days. Mild throughout.

XXIII. *New Barnsley.* The first three days showery; from 4th to 16th very fine, the remainder showery and at times stormy.—*Carrablagh.* Wet, windy and cold.

OCTOBER.

I. *Lansdowne Crescent.* Warm until the 8th, cold during the remainder. R scarcely half the average.—*Muswell Hill.* Very dry; R only 41 per cent. of the average of 18 years, and during that period only two Octobers have had smaller falls.—*Finchley, Etchingham Park.* R fell on only 12 days, and on 8 of these the fall was less than 10 in. The first 13 days were very dry, R falling on only the 6th and 7th.

II. *Wallington.* Dry, sunny and fairly warm. R 1·65 in. below, or less than half, the average.—*Hythe.* First part mild and fine, the latter part wet and unsettled.—*Keston Tower.* Beautiful summer-like weather prevailed during the first half, with temp. much above the average. The last half was usual October weather with two frosty days.—*Leysdown.* Fine on the whole, with some very hot days, but occasionally heavy R and cold winds.

III. *Throcking Rectory.* R 1·18 in. below, or three-fifths of, the average.—*Oxford, St. Giles.* Streams very low, ditches dry, canal reservoirs as low, or lower, than in 1868. R for the 12 months ending Oct. 31st, only 18·53 in.—*Bloxham Grove.* Fine and pleasant, with a moderate amount of R; springs and water-courses very low.—*Northampton, Hazlewood Road.* R less than half the average.

IV. *Ipswich, Bishop's Hill.* R only just half the average; the first three weeks fine and warm, the last week changeable, with some very cold nights.—*Diss.* The month opened with a S.W. gale, and on the 7th there was rather heavy R, otherwise the weather was simply perfect till the 15th, when R set in and fell in small quantities almost daily to the close.

V. *Bishop's Cannings.* A beautiful month; R considerably less than half the average. Some wells dry and the water not rising in the Devizes Water Works well at Shepherd's Shore at the end of the month.—*Babbacombe.* Fine and sunny; temp. slightly below, humidity slightly above, the average; R small and few wet days, the total fall, ·70 in., being the smallest in October for 26 years.—*Brampford, Speke.* Beautiful weather, with some fogs in the first half of the month, rather rough and dull afterwards.

VI. *Ross, The Graig.* Very fine and dry, with considerable fluctuations of temp. but no really wet day.—*Burton, Derby Road.* Mild with R 1·34 in. deficient.

VII. *Bucknall.* Exceedingly fine and dry, with a large amount of sunshine.—*Brattleby.* Abnormally dry; scarcely any R fell in the first three weeks. The early part warm, but a cold spell at the end.—*Southwell.* Very warm, sunny and dry, R nearly 2·00 in. below the average.—*Hodsock Priory.* Very fine, mild and dry, with more sunshine than any of the previous nine Octobers. R considerably less than half the average.—*Elvaston.* Decidedly dry, until the middle, the weather being frequently very warm and pleasant. Changeable during the latter part; four frosty nights; temp. 2°·4 above the average.

VIII. *Seathwaite Vicarage.* Persistently wet, but without any one heavy fall till the 24th; temp. above the average.

IX. *Driffield.* Fine to the 26th, then a very cold spell, with S, H and sleet. The end of the month unsettled.—*Scarborough.* Very fine and warm, until the 26th, then very wintry for three days.

X. *Blencowe School.* Almost continuous R, except from the 8th to the 13th; R, however, nearly an inch below the average.

XI. *Disserth, Glanhowey.* Generally warm but dull; sharp frosts towards the end.—*Douglas, Victoria Road.* The first half dull and mild; cold and stormy in the middle; the remainder mild, but very stormy.

XII. *Melrose, Abbey Gate.* Very fine; R 1·20 in. below the average; mean temp. 4°·2 above the average.

XVI. *Stronvar.* Stormy and wet.—*Coupar Angus.* Exceptionally favourable for agriculture, particularly the first half. Mean temp. above, and R below, the average.

XVIII. *Ben Nevis.* Exceptionally wet, an inch or more of R falling on 15 days, and more than two inches on 7 days, while in the 24 hours ending 9 p.m. on 3rd, 8·07 in. fell.—*Glenaladale.* Extremely wet and generally mild, but no severe gales.—*Drumnadrochit.* Very wet.

XIX. *Scourie.* Almost constant R throughout, producing a total fall much above the average. Frequent gales, and H and S at times. —*Watten, H.R.S.* Wet and stormy almost throughout.

XX. *Derry Castle.* Mild and damp, with frequent misty fogs. Rainy days in excess, though the total R was only ·01 in. above the average.—*Hurdlestown.* Very mild and damp, only one or two days at all cold; R ·50 in. below the average of six years.—*Miltown Malbay.* With the exception of a week of fine and most enjoyable weather, ending on the 12th, the month was mild and rainy, with constant fog and mist.

XXI. *Dublin, Phœnix Park.* R ·89 in., the smallest amount recorded in October since the observations commenced in 1837.

XXII. *Lawderdale.* A damp, harsh month.

XXIII. *New Barnsley.* Grand weather till the 24th; S on the 25th, followed by frost, and milder again at the close.

NOVEMBER.

I. *Lansdowne Crescent.* Changeable in temp. Warm from 11th to 23rd, the remainder cold. Very severe frost from 27th to 29th, the

three days having a mean temp. of only 26°·7. *Muswell Hill.* R 28 per cent. less than the average of 18 years, but number of rainy days large.

II.—*Abinger Hall.* Bright and genial till the 26th, when frost and S set in, the 28th being very severe.—*Wallington.* Warmer than usual but rather dreary. Flowers were in profusion until the last few days, when very severe frost occurred. R 1·31 in. below the average of six years.—*Tenterden.* Warm and showery till 24th, then extremely cold, with deep S.—*Hythe.* Very unsettled weather, with R almost daily to the 25th, when S commenced about 4 a.m. and continued at intervals till noon on 28th, when it was 17 inches deep; a gradual thaw followed.—*Keston Tower.* Very mild till the 25th, but frost and S prevailed on the last six days.—*Sheppey, Leysdown.* Almost every variety of weather was experienced, from calm, bright, sunny days to severe storms of wind, R, H, and S. It is said that in Sheppey, the average depth of S on the 28th was the greatest remembered, though the drifts were deeper in 1881.—*Mayfield Vicarage.* The first 23 days were unusually mild, the max. in shade being above 50° throughout; on 24th the wind changed to N. and the temp. fell steadily, the 28th being the coldest day for many years.—*Emsworth, Redlands.* Unseasonably mild with strong winds and gales from 1st to 23rd. Hard frost and S from 26th to 30th.—*Maidenhead.* Very wet and very cold towards the end.

III. *Throcking Rectory.* R. ·24 in. below the average.—*Northampton.* R half-an-inch above the average.—*Pitsford, Sedgebrook.* R or S fell on almost every day throughout.—*Fulbourne Asylum.* Fine and mild till the last week. Many garden flowers in bloom and ripe strawberries gathered.

IV. *Walthamstow.* Wet, and the end very cold, a mild period in the middle.—*Harlow, Sheering.* R ·22 in. above the average of 20 years.—*Sudbury, Friars Street.* Unsettled at times and very cold at the end, with a good deal of S.—*Ipswich, Bishop's Hill.* R ·60 in. above the average; temp. very variable.—*Diss.* Wet and dull with many gales and one continuous S storm from 25th to 28th, yielding 2·45 in. of water.—*Crimplesham.* Very calm and mild from 8th to 21st; very foggy in the latter part, with S from 26th to 28th.

V. *Bishop's Cannings.* In spite of some frosts and fogs, very warm till 24th, afterwards sharp frosts. R 1·14 in. below, or two-thirds of the average.—*Hazelbury Bryan.* The month opened bright and fine, but on the whole was dull and foggy. A great change occurred

at night on 23rd, the temp. fell greatly, and reached its lowest point (21° on 29th) much damage being done to vegetation.—*Babbacombe.* Variable and rather cold, with great range of temp. and less R, but more wet days, than usual.—*Stowell Rectory.* Average temp. and humidity but scanty R.

VII. *Ketton Hall.* Dull and wet, with a remarkably heavy fall of S on 26th and 27th. Wind W. on 24 days.—*Brattleby.* Fine and open, and mild for the first half, very cold at the end, with the deepest S known for many years.—*Southwell.* Very mild and open till the 23rd, but unsettled, only seven days without R.—*Hodsock Priory.* Rather wet and mild till the last week, when 11 inches of S fell, and the frost on the 30th was the sharpest recorded in November during 15 years. R 50 per cent. above the average.—*Willington.* Wet and cold, with a frost, and S at the close.—*Elvaston.* Stormy and rough till near the middle, then warm, fair, and damp, to the 21st; afterwards very stormy and cold; 10 frosty nights.

VIII. *Eccleston.* R far above the average; 2·84 in. fell in the three days 6th to 8th, and the total for the month was only ·03 in. less than that of the four months Jan. to April.—*Knutsford.* Fine mild days in the first half with R every night; exceedingly mild from 17th to 20th, and the last week fine and frosty with a little S.—*Birkdale.* R fell on 23 days, rather more than one inch above the amount for the wettest November (1887) in 19 years.—*Over Darwen, St. James' Vic.* The wettest month in a record of 18 years. On four days the fall exceeded an inch, and the total for these days represents 54·5 per cent. of the fall for the month. and 10·8 per cent. of the fall for the year. The total for the month is 19·6 per cent. of the total for the year.—*Accrington, Milnshaw Grounds.* Remarkably wet, more than an inch of R falling on three days.—*Woodland Rectory.* The wettest month recorded, R 12·58 in; the next wettest was January 1877, 12·36 in.—*Seathwaite Vicarage.* Unusually mild till the 24th, when hard frost set in. R the greatest remembered in any month.

X. *Whorlton.* Much R and dull, damp weather. Very cold in the last week with S.—*Ulpha Vicarage.* Very few fine days until the 23rd, then fine and frosty till the 29th.—*Nether Wasdale.* Warm and damp, excepting from 24th to 29th, when it was clear and frosty.—*Whitehaven, Irish Street.* R exceptionally heavy, 11·55 in.—*Keswick, The Beeches.* Very wet till the 23rd, fine and bright after. Falls of R

exceeding an inch on five days. S on 7 days.—*Keswick, Shu-le-Crow.* Very wet; four falls exceeding one inch and R on 23 days.—*Cockermouth, Brandlingill.* The greatest R (10·33 in.) for one month, known in this district.—*Uldale Rectory.* Damp and disagreeable up to the 24th, with R on 20 days. The remainder fine and frosty. —*Blencowe School.* The wettest month of the year, R being almost continuous except in the last three days. R nearly 2·00 in. above the average.

XI.—*Castle Malgwyn.* Very wet up to the 24th, followed by severe frost.—*Disserth, Glanhowey.* Very warm and wet till 24th, when sharp frost set in.—*Maes Elwy.* Very wet, 1·47 in. of R falling on 6th and 1·41 in. on 8th. Total for the month 6·03 in.—*Rhiwbryfdir.* Very wet; total R 17·41 in. In the first 9 days 7·03 in. fell, and in the week ending 23rd 7·53 in.—*Llwydiarth Esgob.* The heaviest R in Nov. since 1861.—*Douglas, Victoria Road.* A month of almost uninterrupted R and severe gales. R or S fell every day and the total (9·81in.) is the largest in any month during 17 years, with the exception of January, 1877.

XII. *Garliestown, Galloway House.* The wettest month experienced here since a record has been kept.—*Dalbeattie, Colvend Manse.* The wettest month remembered in upwards of 46 years.—*Maxwelton House.*— Very wet for the first 23 days, the fall exceeding an inch on 4 days, and two inches on one day.—*Langholm.* Exceptionally wet, four days with falls exceeding an inch. The Esk and all its tributaries were filled to overflowing.—*Moffat, Craigielands.* Abnormally wet.—*Melrose, Abbey Gate.* R 40 per cent, and wet days 6, above the average; mean temp. about the average. No severe gales; wind S. or W. on 22 days.

XIV. *Glendrishaig.* By far the wettest month remembered, total R 11·73 in.—*Pinmore.* R 10·99 in. the heaviest fall recorded in any month during 16 years.

XVI. *Dollar.* Very wet throughout.—*Stronvar.* Very wet and dull; temp. high till the last week when sharp frost prevailed.—*Coupar Angus.* R excessive; temp. about 1°·5 above the average.

XX. *Coolkelure.* Unusually wet and stormy.—*Darrynane Abbey.* Very wet, the R being 2·13 in. above the average of 10 years. R fell on 33 consecutive days from Oct. 24th to Nov. 25th.—*Derry Castle.* Excessively wet and stormy, though mild, until the 26th, when S fell, followed by severe frost for three days. The wettest Nov. since 1877, the R being 62 per cent. and the number of wet

days 4 above the average.—*Hurdlestown.*—The wettest Nov. on record. R 1·41 in. and number of rainy days 4 above the average of 6 years. Very mild till the 25th, when sharp frost set in.—*Miltown Malbay.* The heaviest and most continuous R in any November for 16 years. The first half of the month was very stormy with T and L on four days; it was then foggy, misty, and rainy till the 25th, followed by three nights of sharp frost.

XXI. *Athboy.* The wettest month recorded in 4 years.—*Currygrane.* Terribly wet; the land quite saturated.

XXII. *Tuam, Gardenfield.* Excessively wet, the greatest monthly R registered here.—*Lawderdale.* Unusually wet and stormy. The wettest month recorded in 7 years.

XXIII. *Edward Street,* [*Newry.*] R excessive, especially from 5th to 12th, causing serious floods in the lower part of the town.—*Newcastle, Fairleigh.* Very wet, the fall on the 6th, 3·81 in. being the greatest for many years.—*New Barnsley.* Phenomenal R; up to the 10th more than an inch had been recorded on three days, and the fall exceeded the average for the whole month by half-an-inch. Exceedingly mild from 16th to 23rd; thrushes in full song and sparrows nesting. Severe frost from 25th to 29th.—*Ballymena.* The wettest month since the record commenced in 1877. There were only two dry days and on the 6th 2·35 in. fell, causing the greatest floods ever known.—*Dungannon, Rockdale.* The R exceeded that of any other month since the record began in 1875.—*Killybegs.* Exceptionally wet (12·36 in.) more than an inch in 24 hours falling on 3 days.—*Carrablagh.* Nearly two inches wetter than any month in the preceding 3 years.

DECEMBER.

I. *Kensington, Edith Road.* A month of almost unparalleled severity, more remarkable for persistency of cold than for extremes; the temp. only reaching 40° on 4 days. Very foggy and not one minute's sunshine. Mean temp. 30°·8.—*Lansdowne Crescent.* Severe frost set in on the 10th, lasting until the end of the month; mean temp. 30°·4, the coldest month recorded during 12 years; frost in shade on 25 nights.—*Muswell Hill.* R only three-tenths of the average, and the smallest in December since 1873.—*Finchley, Etchingham Park.* The only actual R was ·10 in. on 3rd and 4th, while S fell on 11 days, but on only one yielded more than ·10 in. The total was only ·77 in. and was the smallest in any month of the year.

II. *Haslemere, Hazelhurst.* Extremely cold ; skating from the 11th to the end.—*Abinger Hall.* Severe weather all through, no real break occurring.—*Wallington.* One of the most extraordinary months of the century. The coldest and most sunless remembered. At *Greenwich* the coldest since 1841. R very small, being 1·30 in. below the average of 6 years. The sun shone on only 4 days.—*Tenterden.* Dry and cold ; mean temp. below 30°, or lower than in the very similar December of 1879 when it was 31°. On 15 days the temp. did not rise above 32°.—*Edenbridge, Falconhurst.* The entire fall (1·50 in.) was S falling on 4 days.—*Keston Tower.* Extremely cold, and remarkable for the stillness of the atmosphere, calms, and light airs from E. nearly the whole month. A moderate amount of S, but not very deep. Skating from 11th to the close.—*Sheppey, Leysdown.* Long continued frost ; very little S ; slight fogs occasionally.—*Littlehampton.* The cold more severe than for 20 years past. Depth of S never more than 3 or 4 inches.—*Worth Rectory.* Eight inches of S.—*Emsworth, Redlands.* Wind N.E. to E. all the month ; hard frost every night. Wells and springs dry.—*Southampton, Westend.* S fell on the 9th, 19th, 26th and 31st, to a total depth of 10 inches.—*Fordingbridge, Wood Green.* Fall in this month chiefly S. The river Avon lower than it had been known for a long period.—*Alton, Ashdell.* Altogether about 8 inches of S fell.—*Hartley Wintney.* The severest month since 1881.—*Heckfield, Park Corner.* The coldest December experienced in 21 years.—*Maidenhead.* Fine, dry and very cold ; frost every day.

III. *Throcking Rectory.* R 1·41 in. below, or less than one third of the average, and considerably less than the fall in December in any of the previous 10 years. The coldest December observed ; temp. 8°·9 below the average ; the max. was below 32° on 15 days and on the 30th did not rise above 24°·5 ; with the exception of the 3rd and 4th the max. was below the mean daily temp. during the whole month.—*Oxford, Magdalen College.* Very severe weather after the 17th with N.E. winds ; the rivers Thames and Cherwell being frozen from the 21st to the close.—*Bloxham Grove.* Open weather till the 6th. Severe frost set in on 7th and continued without intermission to the end. Springs, brooks and wells getting very low.—*Banbury, Bloxham.* The wells all failing.—*Northampton, Hazlewood Road.* Cold weather after the 7th, with S which remained on the ground to the end. R 1·58 in. below, or about one-fourth of, the average.

IV. *Walthamstow.* Phenomenally cold and frosty ; R very deficient.

The coldest month on record, with frost throughout and S on the ground every day. The ice was over 10 inches thick at the close of the month, and skating prevailed daily from 12th to 31st.—*Sudbury, Friars Street.* Dry, and very cold after the 7th, with occasional S and heavy hoar frosts.—*Ipswich, Bishop's Hill.* Dry, dull and foggy, generally very calm and very cold. R one-third of the average, all fell in the form of S.—*Rendlesham Hall.* The coldest December for many years, with severe frost in the latter half.—*Diss.* Extreme dulness, extreme coldness, and an almost entire absence of wind, were the principal characteristics of the month. S covered the ground deeply nearly all the month, but owing to the absence of wind there were no serious drifts.

V. *Alderbury.* The severest weather since observations commenced in 1867. S, which remained on the ground from the 8th, never thawed even in the sun.—*Conholt Park.* Severe frost almost throughout; S fell to the depth of about 9 inches on 19th and 20th.—*Bishop's Cannings.* Frost every night except the 4th, and day and night after the 8th, excepting very slight thaws on the afternoons of 15th, 21st, 23rd and 26th. R less than half the average.—*Hazelbury Bryan.* Very cold and wintry, with almost continuous frost. Wind N.E. on 23 days.—*Babbacombe.* Very cold; unprecedentedly gloomy and misty, and rather wet. S covered the ground on only 4 days, the greatest depth being 1·7 in.—*Brampford Speke.* Unusually cold, dull and snowy.—*Stowell Rectory.* An unusually cold month; mean temp. 5°·4 below the average. R more than an inch below the average. S on 10 days.—*Bath, Bathwick.* S fell on 4 days; to the depth of 5 inches on the 18th, 16 inches on the 20th and 21st, and 2 inches on 24th.

VI. *Further Barton.* One of the coldest and gloomiest Decembers on record. Severe and continuous frost, with much fog and the sky almost always overcast.—*Ross, The Graig.* The coldest December recorded; probably the coldest since 1788. Frost in shade on 27 nights, and 12 days, with a max. below 32°. The sky almost continually overcast, and much fog. Wind N. or E. on 30 days. S on the ground from 18th to 31st, and reaching a depth of nearly 12 inches.—*Burton, Derby Road.* Very cold and dry; R 1·98 in. deficient and the least fall in December during 14 years. The mean temp. was no less than 7° below the average, and the lowest during 14 years. There were 24 frosts, the river Trent being frozen over from the 20th to the end of the year. S fell on 9 days.—*Bedworth*

Cemetery. R below the average; springs very low and many wells empty.

VII. *Ketton Hall.* Dull, with much fog and low temp., only two bright days. Wind easterly on 25 days.—*Hemingby.* The coldest month since January 1881. Mean temp. 30°·2.—*Brattleby.* A real winter month, probably the coldest for many years. Skating began on the 14th and lasted throughout; the rivers were frozen hard, and there was skating between Lincoln and Boston at the end.—*Southwell.* Dry and very cold and sunless. R 1·50 in., and temp. 6°·5, below the mean; frost every night after the 6th; on 8 days the max. was below 32°. Only 7 hours of sunshine recorded, 4 of which were on one day.—*Hodsock Priory.* Very cold, dull and dry; mean temp. about 7° below the average, and the lowest in any December during 15 years, though the nights were colder in 1878 and 1879. The sun shone for only 5 per cent. of the time it was above the horizon.—*Willington.* Remarkably even and low temp. The coldest December, if not the severest frost, within living memory. Frost throughout, with the exception of a break on the 4th, 5th and 6th.—*Elvaston.* A very dry month, with severe wintry weather from the 13th. S on the ground from the 15th to the end of the month; 24 frosty nights. Temp. 4°·1 below the average.

VIII. *Knutsford.* Cold and dry, with several very pleasant days.—*Birkdale.* The most wintry month for many years, the mean temp. being the lowest in December during 18 years. Frost on 27 days; great prevalence of light E. winds, and of mist and fog, only 2 days being entirely free. R the least amount recorded in December during 19 years. Ice $5\frac{1}{2}$ inches thick on an extensive fresh water lake on the 31st.—*Lancaster, Hest Bank.* R ·59 in., the smallest amount in December since 1853, when only ·11 in. fell.

IX. *Otterburn-in-Craven.* S fell on 8 days, yielding 1·08 in.—*Knaresborough, Conyngham Hall.* A rather dry month, but very cold.—*Driffield.* Very dull, dry and exceptionally cold, mean temp. 32°·2. Sunshine deficient, easterly winds prevalent.—*Scarborough.* Very dark and cold, with frequent slight falls of S, but unusually dry.—*Thixendale.* Remarkable prevalence of E. wind, but so gentle as scarcely to blow at all; 20 days continuance.—*East Layton.* Severe weather throughout, with a very small R.

X. *Ulpha Vicarage.* R small, and temp. generally low. Some days very dark, but the weather mostly clear and bright. Very little S, the heaviest fall being about 2 inches on 25th.—*Nether Wasdale.* A

fine clear frosty month, with, as a rule, brilliant sunshine.—*Keswick, The Beeches.* Continuous frost from the 7th to the end, and Derwentwater frozen over from the 13th. The duration of bright sunshine was 48 hours, there being 15 days on which none was recorded.—*Blencowe School.* December witnessed a frost of great severity, the S fall here being very slight. Frost quite a foot into the ground. R three inches below the average.—*Uldale Rectory.* Remarkable for the long continuance of easterly winds and very dry frosty weather. Skating on the lakes was very good and altogether unprecendented in its duration.—*Kendal, Hill Top.* Remarkably dry.—*Shap, Copy Hill.* The hardest frost for many years; very little R or S.

XI. *Nantgwillt.* Frost throughout, but hardly any S before the 18th.—*Douglas.* The coldest December since 1880. No very severe frost, the temp. being uniformly low, with bitterly cold E. winds. Frequent fogs, the boat to Liverpool on the 20th being out 27 hours in the fog. No gales.

XII. *Melrose, Abbey Gate.* Very dull and cold; mean temp. 3°·3, and R ·82 in. below the average; wind N. or E. on 24 days.

XIII. *North Esk Reservoir.* Frost most of the month. S scarcely 2 inches deep.—*Edinburgh, Blacket Place.* Very dull and cold; only 7 hours sunshine, and 25 days on which there was none.

XV. *Oban, The Corran.* Cold and sunless; 15 days on which the sun did not shine.

XVI. *Coupar Angus.* R ·45 in. below the average. Temp. very low in the week ending 24th.

XVIII. *Drumnadrochit.* Exceedingly dry, the R being only one-fourth of the average of the previous four Decembers. The weather was characterized by long sustained frost and an almost entire absence of S.

XIX. *Scourie.* E. and N.E. winds prevailed, with keen frost at times. R below the average.—*Watten, H.R.S.* Dry and mild.

XX. *Tipperary, Henry Street.* Hard frost in the last week, and slight falls of S on 2 days.—*Derry Castle.* The driest December with one exception in 14 years, the R being just half the average. The first half stormy and rather wet; dry after the 12th and almost constantly freezing.—*Hurdlestown.* Fine, cold and frosty; five severe gales; little S; parts of Doon lake frozen.—*Miltown Malbay.* A seasonable cold month, with alternate frosts and thaws; very severe in the last week, the 30th and 31st being the coldest days since the great frost of 1855. Very little S.

XXI. *Twyford.* Comparatively dry, with a low temp.—*Currygrane.*

The driest December with one exception (1885) since observations commenced in 1879. The frost was very severe from the 20th onwards.

XXII. *Lawderdale.* Dry and seasonable.

XXIII. *New Barnsley.* The month opened very dull and foggy and continued so more or less till the 10th; frost, followed with occasional S showers, and H and sleet on 15th. From the 22nd to the end showery, with frost at night and thaw in the day.

OBSERVERS' NOTES ON THE YEAR 1890.

ENGLAND.

DIVISION I.—MIDDLESEX.

KENSINGTON, EDITH ROAD.—A very dry year, though no drought occurred and the number of rainy days was rather over the average. Unfortunately one-third of the total R fell in the two months of June and July. The year was remarkable for a total absence of hot days, the thermometer reaching 80° on only one occasion.

LANSDOWNE CRESCENT.—Very dry. In the two months, June and July, more than one-third of the total R for the year fell. No R fell in the 20 days ending September 16th.

NORFOLK TERRACE.—On the whole a quiet year, the summer cool and wet, the autumn very fine and warm. The most notable feature was the protracted frost in December.

MUSWELL HILL.—R exactly 3·00 in., or about 70 per cent., less than the average. The 5 months, January, March, June, July, and August, gave an excess of 4·44 in., while the other 7 months were deficient by 7·44 in. The 3 months, June to August, exceeded the average by 3·91 in., while the 4 months, October to December, had a deficiency of 5·70 in., showing a very wet summer and very dry autumn and early winter. An absolute drought of 19 days occurred from August 29th to September 16th.

FINCHLEY, ETCHIGNHAM PARK.—On the whole dry, the excess of R in the summer failing to compensate the deficiency of the other months. In June, July and August 11·06 in. fell, while the following 4 months had a total of only 5·29 in.

DIVISION II.—SOUTH EASTERN COUNTIES.

DORKING, ABINGER HALL.—A fair year on the whole, the harvest being got in in good condition in spite of the cold and wet summer.

FARNHAM, THE BOURNE VIC.— R 3·39 in. less than the average of 13 years.

KENLEY, INGLESIDE.—With the exception of May, which was fine, the spring and summer were dull and unsettled. September was fine, October and November were dull and foggy, and December was remarkably cold.

CROYDON, THE WHITGIFT.—R 2·95 in. below the average, the fall in the summer being in excess, but in the autumn very deficient.

TENTERDEN, SUMMERHILL.—The year was remarkable for extreme cold in March, sharp frost in October, and for the great frost which lasted from November 24th to the end of the year. The summer was cold and ungenial, and September was exceptionally warm. There was no drought, but owing to the dry autumn, springs were low at the close. Frosts occurred on 70 nights. The temp. did not once exceed 80°, and only rose above 70° on 37 days, while 60° was reached on 155 days, the greatest number in any recent year.

CRANBROOK, HARTLEY.—R 3·26 in. less than the average of 25 years. The last 8 years, with the exception of 1888, all had deficient falls, while the 8 years prior each had an excess; the average of the two periods varying more than 6 inches.

TUNBRIDGE WELLS.—The supply of water was very short at the end of the year.

KESTON TOWER.—An ordinary January and February, March notable for a severe frost on the 4th, the temp. falling to 11°, and a cold and wet summer. Another notable frost occurred on November 28th, when the therm. registered 14°. December was characterized by severe frost throughout, with great stillness of the atmosphere.

RECULVER, BROOK.—A good spring, with medium R Heavy R in June, July and August, which damaged almost every crop. A splendid autumn, but the drought rather too prolonged for roots. An unusually severe frost from November 26th until the end of the year.

HAYES, LAYHAM'S FARM.—A good growing spring, but disastrously heavy R in July and heavy storms in August; nearly three-tenths of the total R falling in the two months. An extremely bright and dry September and October followed, and hard frost prevailed all December.

CROSSNESS.—R 4·92 in. below the average of 28 years. The aggregate R at the end of each month up to June was below the average, but July had nearly double the average, and at the end of it, and also of August, there was an excess of about an

inch; with each succeeding month the deficit re-appeared, and at the end of the year reached the above amount.

WORTHING, HEENE.—R 5·36 in. below the average of 20 years, this being the 4th consecutive year with a deficiency.

CHICHESTER, WESTGATE.—R 5·28 in. less than the average of 50 years.

CHICHESTER, SELHURST PARK.—An excess of R in the three summer months, June, July and August, the total of these amounting to 9·95 in., followed by a deficiency in September and October, their aggregate being only 2·72 in.

CHICHESTER, CHILGROVE.—The water in the well continued to decrease from February 1st to the end of the year.

EASTBOURNE, WILMINGTON SQUARE.—The spring months had nearly the average R; June, July and August were wet, and September and October very fine. On November 25th a severe frost set in, which lasted till the close of the year, believed to be the severest frost on record at the end of the year.

BRIGHTON, BLATCHINGTON ROAD.—R below the average. Very sunless and rainy in the summer; May and September beautiful; December exceedingly cold and sunless, with very little precipitation.

BRIGHTON, PRESTONVILLE ROAD.—A cold, dull, dry year; January mild and damp, February dry and cold, May very fine, June dull, July the wettest month of the year, November mild and December intensely cold.

WALDRON, BRYCKDEN.—R about half-an-inch above the average of seven years.

MARESFIELD, FOREST LODGE.—The R was 2·46 in. below the average of 30 years, the number of days on which it fell, though, is remarkable, being 232 as against 201 in 1889, 209 in 1888, 165 in 1887, and only 215 in 1877, when the great amount of 40·74 in. was registered. The R differed curiously too, from the average in the various months. It was in excess of the 30 years' average, in March ·55 in., in April ·83 in., in May ·05 in., in June ·73 in., in July 1·26 in., in August 1·14 in., and in November ·45 in.; while it was in defect of the same average, in January ·04 in., in February ·91 in., in September 1·07 in., in October 2·20 in., and in December 2·34 in. Very severe cold accompanied the comparative drought at the year's end.

CROWBOROUGH OBSERVATORY.—The R was 5·28 in. below the

average of 20 years, nevertheless the summer was wet and sunless—most of the hay which was cut before the middle of July being spoilt. After August 25th fine weather prevailed for some weeks. An unprecedented frost occurred on November 28th, and very severe weather continued throughout December. S.W. winds preponderated.

CHRISTCHURCH, MUDEFORD.—The R at the end of July was 1·99 in. above the average of 20 years, but at the end of the year, was 3·85 in. below it.

LYMINGTON, PENNINGTON.—A dry spring and autumn. Less R than in the two proceeding years, and what there was came mostly during the summer. R was much wanted at the close of the year as the springs were very low.

PORTSMOUTH, CLOSEWOOD, COSHAM.—Total R below the average. More than half (12·63 in. out of 23·85 in.) fell in the four months, January, June, July, and August, the three latter being so persistently wet that most of the crops were spoiled. A drought of 17 days occurred in September which was dry from the 3rd.

EMSWORTH, REDLANDS.—R 3·83 in. below the average of 7 years. It was very dry from September to December. Wells and streams at the end of the year were dry, and some failed, which, within memory, have never before been known to become dry. An absolute drought of 20 days occurred from August 29th to September 17th. The year will be remembered for the severe frosts and cold weather of November and December.

BOTLEY, HALL COURT.—At the close of the year the wells were getting dry, one well which had never been known to fail before, had been dry for some time.

WINCHESTER, HARESTOCK.—Strong winds prevailed in January, and March was cold and dry, retarding vegetation; May was also dry, and there was little blossom on fruit trees. TSS were frequent in summer, especially in August. S fell on December 19th, followed by unusually cold weather.

DENFORD PARK.—R 5·70 in. below the average of 11 years. Nearly all the wells were dry at the close and had been so for two or three months. The winter R which alone much affects the springs being especially short in 1889 and 1890, as well as each year showing a total deficiency of about 6 inches.

READING, EAST THORPE.—R 1·69 in. below, and rainy days 12 above, the average of 10 years.

YATTENDON COURT.—An unusually dry February following the dry winter months of 1889, caused all springs and brooks to be unusually dry during the year. In many places great scarcity of water was felt during the autumn and winter.

LAMBOURNE.—Owing to the R of 1889 and 1890 being below the average, the Lambourne ceased running on Sept. 9th, 1890, and a month after was dry; by the end of the year all wells except the deep ones were also dry.

MAIDENHEAD, LOWOOD.—R below the average, as it was for several years previous.

DIVISION III.—SOUTH MIDLAND COUNTIES.

ST. ALBANS, THE GRANGE.—R about 3 inches below the average, though the summer was very wet. February, September and December were very dry, averaging ·68 in.; April, May and October were rather dry, averaging 1·38 in. The other 6 months were wet, averaging 2·82 in. The longest period without R was from August 30th to September 16th (18 days), and the longest period with R every day was from June 25th to July 12th (18 days).

BUNTINGFORD, HAMELS PARK.—The early spring months were all that could be desired; July and August were very gloomy and cold. with scarcely any sunshine; September and October were grand autumn months; the early part of November was mild, but there was very sharp frost at the end, and December was very cold.

THROCKING RECTORY.—Rainfall 3·79 in. below the average of ten years; rainy days 4 above the average. Mean temp 0°·4 below the average.

SLOUGH, LANGLEY.—R 3·53 in. below the average, 1872–90. More than a sixth of the total for the year fell in a single day, and July produced a quarter of the year's fall.

SLOUGH, UPTON.—The great features of the year were the exceptional R of July 17th, 2·75 in., followed next day by ·30 in.; and the dryness of the year, which is more remarkable when we deduc- the three summer months 8·92 in. from the total, leaving for nine months (and those embracing winter and autumn, besides spring which is generally drier) only 10·58 in.

GREAT MARLOW.—R 5·11 in. below the average.

STONY STRATFORD, THORNTON.—R the least for 23 years excepting 1874, 1884 and 1887.

OLNEY, FILGRAVE RECTORY.—R the smallest in 16 years. 1887 the next smallest having ·24 in. more.

ASSENTON.—R much below the average, and ·46 in. below that of 1887; this had a marked effect on the spring water which at the close was lower than it had been for 26 years, being 72 ft. lower than at flood time in 1881.

ABINGDON, CULHAM.—The R was considerably below the average and would have been much more so, but for the exceptional falls on two days in July and August. There was great shortness of water in this neighbourhood.

WATLINGTON, PYRTON.—R much below the average, though the number of rainy days was about the average. There were no droughts, but springs were very low at the end of the year, and the well had less water in it than at the end of the dry year 1887.

OXFORD, ST. GILES.—In the 14 months from November 1st, 1889 to December 31st 1890, the total R was only 21·01 in. on 209 days.

OXFORD, NORHAM ROAD.—The driest year recorded.

STANTON ST. JOHN'S, WOODPERRY.—The springs were lower at the close than they had been for 11 years. There was a drought of 18 days, from August 30th to September 16th.

CHIPPING NORTON, KINGHAM.—The smallest R recorded, the total being more than 10 inches below the average and little more than half that of 1882. Second class wells were dry at the close.

BANBURY, BLOXHAM GROVE.—The spring was gloomy and cold, and ungenial weather prevailed nearly to the end of June. July was the wettest month of the year. In August there was an increase of temp. with some stormy weather. September was fine and warm and favourable to the harvest. In December severe frost prevailed. R much below the average and a great absence of sunshine.

HARGRAVE.—The latter part of the year was abnormally dry, and harvest was consequently well got. Farmers were at much expense carting water for cattle after harvest, and the ponds were still empty at the close of the year.

MAXEY VICARAGE.—R 2·79 in. below the average of 9 years, rainy days 1 above the average. More than ·50 in. fell on 5 days and more than an inch on 1 day. The longest dry period was 13 days ending October 6th, and the longest wet period 9 days, ending November 21st,

ASPLEY GUISE.—R 6·72 in. or nearly 27 per cent. less than the average of 30 years. Four months January, March, July and Novem

ber had more than the average, but only in July did the excess exceed half-an-inch, while the remaining 8 months were all deficient, the deficiency exceeding an inch in April, October and December, and 2 inches in September.

TEMPSFORD HALL.—Generally dry; February, March and April cold, and December specially so after the 7th with frequent S, the greatest depth being 6 inches. Ponds, wells and springs were low all the year, particularly so in November and December.

PODINGTON.—Very dry on the whole, but with many rainy days in January and August, though no great amount fell on any one day.

FULBOURNE ASYLUM.—Very cold till the end of April. May a splendid month and the latter half of June fine and warm. July cold, wet, and gloomy, August moderately fine; September and the first half of October glorious. November very mild till the last week, and December extremely cold. R about 3·00 in. below the average.

CAMBRIDGE OBSERVATORY.—A somewhat remarkable year, no heat and scarcely any summer weather.

QUY HALL.—R so extremely small that the supply of water in the village has been insufficient, and some wells have had to be deepened.

THORNEY, WRYDE HOUSE.—The year opened wet and cold; the Spring and Autumn were dry, and it was necessary to cart water for stock in December.

DIVISION IV.—EASTERN COUNTIES.

WALTHAMSTOW.—R about the average, September and December deficient, July and August much in excess. An absolute drought of 17 days, ended on September 17th.

DUDBROOK HOUSE.—The summer was very wet, the heavy R on July 17th (2·42 in.) causing considerable damage to the crops; a dry warm autumn followed, September having the highest temp. and the smallest R of any month of the year.

IPSWICH, BISHOP'S HILL.—R 3·07 in. less than the average. March and April very wet, September, October and December very dry.

RENDLESHAM HALL.—July was very wet, followed by considerable R in August and a warm dry September and October; Novem-

ber was cold and wet, with frost and about 9 inches of S; December was dry and cold, with slight S during the latter part, and severe frost from the 19th to the end.

HAWKEDON.—July was remarkably cold and wet, August very dull and cold, September and the first half of October were beautifully fine and warm. The winter began suddenly at the end of November, S falling on the 25th, and very severe weather prevailed until the end of the year.

DRINKSTONE PARK.—R 4·44 in. less than the average of 25 years.

DISS.—Very rough weather prevailed at the end of January, and winter, with occasional S, extended into March. May was brilliant. but the three summer months were wet and cool, so that both haysel and harvest were slow, though good crops were ultimately secured; September and part of October were bright, and beautiful, but winter weather set in in November, and the S storms at the end of that month were extremely heavy; hard frost, with abundance of skating continued to the end of the year.

GELDESTON.—R 2·10 in. below the average of 20 years.

SPROWSTON, OAK LODGE.—R about the average; February, May, September and December were very dry.

EAST DEREHAM.—During the first three months there were a few sharp frosts, but the winter was not a severe one, and the R was below the average. In June and July the temp. was deficient and the R excessive; September and the first half of October were remarkably dry and fine, with unusually high temp. At the end of November the weather was very wintry, the temp. of the last week being 10° below the average. December was very wintry throughout; the coldest, except perhaps 1814, since 1788; the temp. of the month was 9° below the average, the R being deficient.

CRANMER HALL.—During the three summer months 10·23 in. of R fell, but the harvest was very fair notwithstanding.

DIVISION V.—SOUTH WESTERN COUNTIES.

ALDERBURY.—R five inches below the average.

MERE DOWN.—R less than the average but about the usual number of rainy days. Springs at the end of the year almost unprecedentedly low.

CONHOLT PARK.—January began with sharp frost, and the early part of March was cold. July and August were very wet. The

early part of September was fine and very hot, but on November 25th frost set in and continued to the end of the year.

BISHOP'S CANNINGS.—R the smallest in 17 years with the exception of 1887, being 7·50 in. less than the average; rainy days ten above the average, and only exceeded by 6 out of 17 years. The only drought was that defined as a long drought, viz.: 60 days ending April 20th, with 1·87 in. of R, but there was a great deficiency on the whole year. This is of great importance as affecting wells and springs, and the outlook in this respect appears serious. After the drought of 1887, there was only about an average R in 1888, a deficiency in 1889, and a great deficiency in 1890, and this deficiency especially marked in October, November, and December, when the R was about half the average. Wells were never before known so low at the end of the year, as at the present time. In the deep well in the chalk which supplies Devizes Waterworks, the water is now 98 feet from the surface and can be pumped out in a few hours. Even if a great excess of R occurs in January, February, and March, it will hardly make up the deficiency of the Autumn. Probably the R after April does not tell much on deep springs, and the whole mass of chalk must be abnormally dry.

LANGTON HERRING.—R 6·76 in., or 22 per cent. less than the average of 15 years, the only months with an excess being January, April, June, and July. Mean temp. 0°·8 below the average. January was very mild; February, July, August, and December were very cold.

HAMWORTHY.—The first four months were cold and disagreeable, the prevailing winds being E. and N. September and October were very fine, and November and December exceptionally cold, with keen frosts and heavy falls of snow. On the whole an unfavourable year.

TARRANT KEYNSTON.—R 6·13 in. or about 20 per cent. less than the average of 10 years.

CHALBURY.—The R, like that of the three preceding years, was much (4·97 in.) below the average.

PLYMOUTH, HOBART TERRACE.—R less than one per cent. above and rainy days, one per cent. below, the average. Temp. rather above the average. Seven months were wet, January and December being particularly so. The duration of sunshine was about one-third of that possible. S fell on only three days.

IVYBRIDGE, LANGHAM HILL.—A dry spring from February to

May, and a cold and rather wet summer with very broken weather, were followed by most beautiful months of September and October. The last six weeks of the year were exceptionally cold, only 8 or 9 nights being without frost.

TORQUAY, BABBACOMBE.—A rather cold, damp year, with low sun temp. and small R, but wet days slightly above the mean. R 7·86 in. (or 20 per cent.) below, wet days 5 (or 3 per cent.) above, the average, It was the 6th cold and the 4th dry year in succession. The mean solar radiation was the least yet observed. The longest consecutive wet period was 12 days, January 17th to 28th, and the longest dry one 8 days, May 26th to June 2nd. January, April, June, July, August and December were wet, the remaining months were dry, especially September and October; January, March, May, and September were warm; February, April, July, August and December were cold. The spring was variable, with great cold and dryness on March 2nd, 3rd and 4th. The summer was cold and wet, and the autumn was dry and fine, with great variations of temp. and hard frost at the end of November. December was the most dull, gloomy and misty month observed, the sun shining for only 11 hours. S on 20 days, covering the ground on 4 days.

HOLNE VICARAGE.—R 14·10 in., and rainy days 11, less than the average of 20 years.

TEIGNMOUTH, MARINE VILLA.—R moderately small, except in April, August and December.

ROUSDON OBSERVATORY.—On the whole fine and dry, for though the total R was little below the average, the deficiency would have been considerable, but for the great falls of May 25th and July 17th, which, together, amounted to nearly 4·00 in.

CLEVELANDS [LYME REGIS].—R exactly the same as the average of 22 years. More than an inch in 24 hours fell on five occasions.

TORRINGTON, LITTLE SILVER.—R somewhat below the average, and singularly devoid of remarkable incident; no fall of an inch in 24 hours.

SOUTH MOLTON, CASTLE HILL.—A very damp, cloudy and cold year, with very severe frost in December.

BODMIN, FORE STREET.—R above the average, January and November being very wet; December very cold.

CREWKERNE, BINCOMBE HOUSE.—R 7·47 in. below the average of 20 years. There were dry periods of 16 days from January 29th to

February 13th; 15 days from March 25th to April 8th; and 17 days from August 30th to September 16th.

YEOVIL, WEST COKER.—The summer was cold, wet and sunless, and in December hard frost prevailed from the end of the first week.

ILMINSTER, WHITE LACKINGTON.—R 6·75 in. below the average of 18 years. There was continued frost from November 23rd to the end of the year

MILVERTON.—R 3·43 in. below the average of 5 years.

COTHELSTONE HOUSE.—R above the average, and yet springs had not broken at the close of the year, and water was consequently scarce.

GLASTONBURY, HIGH STREET.—February was dry; R fell on 57 days during June, July and August. Cold winds prevailed throughout December, and heavy S fell on the 20th and 23rd, about 12 inches.

EXFORD RECTORY.—The year, like the preceding one, was remarkable for frequent falls of R of small amount. Hay time and harvest were much interrupted by frequent R. The total falls from January to June, and from July to December, were nearly equal.

DUNSTER, KNOWLE.—As a rule bright and sunny. The latter part of November and all December, the ground was covered with S.

STON EASTON.—R 6·46 in. below the average of 22 years. R fell on 10 more days than in 1889, with a practically identical total fall.

HARPTREE COURT.—R 8·05 in. below the average of 8 years. On only one day, viz., July 17th, did the fall exceed 1·00 in. The amount of S, which fell between December 18th and 31st, both inclusive, was 20½ inches, yielding 1·22 in. of water.

BATH, ROYAL LITERARY INSTITUTE.—R six inches below the average of 30 years.

DIVISION VI.—WEST MIDLAND COUNTIES.

CLIFTON, SOUTH PARADE.—The driest year since 1870.

CLIFTON, PEMBROKE ROAD.—R 8·83 in. below the average of 34 years, though the rainy days were 5 above the average. The fall was deficient in every month except January, June and July. February was the driest recorded, except 1862, during the whole 34 years.

LYDNEY, CLANNA.—All the springs were very low at the close of the year.

STROUD, STANLEY PARK.—The R of the year was notable for the absence of any heavy falls and of periods of absolute drought, but most of all for the small total fall, which through the whole year caused great inconvenience from dry springs and empty wells.

HATHEROP RECTORY.—With the exception of 1887 the smallest R recorded, and nearly 10 inches less than the average of 21 years.

COLEFORD, NEWLAND.—Entire absence of summer temp., frosts occurring till late in June, but a magnificent autumn.

NEWNHAM-ON-SEVERN.—Exceptionally dry, especially during the last 5 months, so much so, that wells and springs never known to fail before, had been dry for a long period at the close of the year.

GLOUCESTER, QUEDGELEY.—R ·57 in. less than that of 1887, and the smallest recorded in 16 years. Many farmers had to cart water from the end of June to the close of the year.

GLOUCESTER, BIRDLIP HILL.—R 7·62 in. below the average of 7 years. The total deficiency in the 16 months ending December 1890, was 10·50 in. or more than one-fourth of the average.

WITCOMBE WATERWORKS.—The driest year since 1870, the R being 8·71 less than the average of 28 years.

GLOUCESTER, LOWER BARTON STREET.—R 9·01 in. or 33 per cent. below the average of 30 years, and the smallest since 1864. A fair quantity fell in January, June, July and August; in all the other months the fall was scanty. A drought of 18 days occurred, ending September 16th. There was no fall of an inch in 24 hours. Severe cold prevailed at the end of the year, and at the same time Gloucester experienced a water famine and water from the Severn had to be used.

WYASTONE LEYS [MONMOUTH].—There was no drought of 14 days, although the total R was less than that of 1887. The water supply from springs failed considerably.

ROSS, PERRYSTONE COURT.—Springs were dry at the end of the year that had not been dry for years past.

ROSS, THE GRAIG.—Temp. almost exactly the average. December was the coldest since 1788 the mean temp. being 9° below the average. In January the temp. was 6° above the average, May, September and October were also warm. Rainy days a full average; January, July and August very showery, the other months very dry. No heavy rains. There was a great deficiency of

R from June 1889, the total for the 19 months being only 35·58 in. unparalleled since 1855. Springs were very low and there was almost a water famine at the close of the year.

BRYNGWYN.—A dry and still year; few storms of any kind.

PUTLEY COURT.—An extraordinary year of drought which practically began in February and lasted throughout. The R all fell in such quantities that it never penetrated more than 4 or 5 inches, and the ground at the close dug up dusty like Midsummer. Many deep wells were dry which had never been known dry before.

HAGLEY PARK.—Very dry; many springs dried up.

COLWALL.—R 10·44 in. less than the average of 13 years.

CANON FROME.—No scarcity of water, though wells became low.

BRINSOP VICARAGE.—R 7·66 in. less than the average of 7 years.

HEREFORD, BURGHILL.—A dry spring, a damp and gloomy summer, and a dry and warm autumn. R for the 16 months ending December, only 24·05 in., more than 5 inches less than in any similar period for 15 years.

WEOBLEY, DILWYN.—R 7·04 in. below the average.

PEMBRIDGE, MARSTON.—With the exception of 1887 the driest year of the past 11, but R fell on an average number of days.

STOKESAY VICARAGE.—R considerably below, but days on which R fell above, the average.

MIDDLETON-IN-CHIRBURY.—R 7·13 in. below the average of 10 years.

SHREWSBURY, WALLOP.—R far below the average, springs and pools very short of water at the close.

ADDERLEY RECTORY.—R 1·76 in. less than the average of 10 years.

BURTON, SHOBNALL.—R 7·55 in. less than the average of 15 years. Greatest depth of S, 2½ inches on January 27th.

BURTON, DERBY ROAD.—Remarkable both from the paucity of its R, and the unequal distribution of temp. With the exception of January and November, all the months had less than the average R, five of them being more than an inch short. The total fall was 8·68 in. deficient, and the smallest fall in any year of the past 14, except 1887. Although the mean temp. of the year (47°·0,) exactly equalled the average, the monthly means varied from 5°·7 above in January to 7° below in December. Of the others, February, June, July, and August, were more than a degree deficient, while

March, May, September, and October, were correspondingly in excess.

CHEADLE, TEAN VICARAGE.—Another dry, cold year, though the summer was wet as well as cold. R more than 20 per cent. less than the average of the ten years 1875 to 1884.

EVESHAM, BANK.—R 9·02 in. or more than one-third less than the average of 25 years. The R of each month from August 1889 to December 1890, was below the average, and at the end of the year ditches and ponds were still dry, many having been so for fully 8 months.

MADRESFIELD RECTORY.—R 11·97 in. short of the average. The brooks and the river Teme were nearly dry for a great part of the year and at the close the whole district was short of water.

TENBURY, ORLETON.—In the past 60 years only 4 have had a smaller R, viz. : 1844, 1854, 1864, and 1887. With the exception of January and August, the fall in each month was below the average. The summer was fairly warm with no great extremes of heat and cold, September was beautiful and very warm, and December was the coldest month recorded. The mean temp. of the year was a quarter of a degree below the average, but was higher than that of any year since 1884.

STRATFORD-ON-AVON.—Very dry, R less than in any of the previous 14 years except 1887. More than a third of the R fell in July, August, and September, but even then it was less than the average, and spread over many days, so that it did not sink into the ground. Springs were very dry at the close, and no water had run into the reservoir for months.

ALCESTER, RAGLEY HALL.—The driest year for a very long time, with the exception of 1887. All ponds and springs were lower at the close than they had been known at any previous time.

ALCESTER, RAGLEY GARDENS.—The first five months were fairly seasonable, June, July, and the first half of August were cold and dull, while the remainder of August, September, and October, were beautiful.

COVENTRY, PRIORY ROW.—A dry, fine year, with no remarkable storms or R, and no extreme heat.

DIVISION VII.—NORTH MIDLAND COUNTIES.

BARKBY VICARAGE.—R about 6·50 in. below the average. Few very warm days; the last week in September and the first two weeks in

October lovely; very low temp. on October 27th and November 29th; December very cold throughout, frost on grass every day.

ROTHERBY HALL.—The river Wreak overflowed its banks only once, viz., on March 20th. S fell on October 7th, and the ground was white from December 18th to the end of the year. S fell on 19 days.

BELVOIR CASTLE.—Remarkable for periods of drought; less than 1·00 in. of R fell in February, April, September and December. September and October were dry and fair, and very favourable for harvest-work. Severe frost prevailed in November and December.

UPPINGHAM, WEST DEYNE.—Very dry, R 8·26 in. below the average of 16 years; the only months with more than the average were January, March, and November.

SPALDING, PODE HOLE.—A year of paucity of R, excepting at the time of hay harvest and after corn harvest; such a time of absence of R has rarely been known.

SLEAFORD, BLOXHOLM.—R very much below the average and consequently there was great want of water, even wells 100 feet deep being dry.

HORNCASTLE, MININGSBY.—The water in the reservoir belonging to the Boston Water Works at Miningsby was, at the close of the year, lower than it had ever been before.

HORNCASTLE, HEMINGBY.—R 4·35 in., and rainy days 6, below the average of 7 years.

ALFORD, THE SYCAMORES.—Remarkable for the sunless June, July and August, and the bright, warm September and October.

LOUTH, GOSPELGATE.—R 7·14 in. below the average of 26 years, and, with the exception of 1884, the smallest in that period.

NOTTINGHAM, BEESTON FIELDS.—R 5·04 in. less than the average. January, March, July and November were the only months with an excess, but in none of them did it reach an inch, and in March was not appreciable. The deficiency in 4 of the remaining 8 months exceeded an inch.

STRELLEY HALL.—Total R about 5·50 in. below the average, but number of "wet days" quite as large as usual.

SOUTHWELL.—Total R about 3·00 in. below the average. In five months, February, April, September, October and December, the fall was more than 1·00 in. below the mean, while in only two months, January and May, was the fall more than an inch above the average. The mean temp. of the year was nearly normal. The mean temp.

of three months, April, August and December, was considerably below the average, and the deficit was compensated for by a large excess in January, March, September and October.

MANSFIELD, FOREST VILLA.—R about 5·00 in. short of the average. There was scarcity of water, the town being put by the water company on short allowance.

MANSFIELD.—The fourth successive year with R below the average of 20 years; only 2 days on which the fall exceeded an inch, August 9th and 10th.

TUXFORD, RAGNALL.—R below the average, April, October and December being the driest months. The R of July and August, though not heavy, was distributed over so many days as to interfere with out-door work and pleasures. September being fine, warm and dry, enabled the farmers to get their corn in in good condition.

WORKSOP, HODSOCK PRIORY.—A dry and rather cool year, with about an average amount of sunshine. The principal features were —a slight deficiency of R throughout nearly the whole year; a mild open winter and early spring, a cold and dry April, a fine and mild May, a very dull and rather showery summer with a total absence of warm summer weather; a very fine, dry and warm September and October; a rather wet November, with a very sharp frost and an exceptionally heavy fall of S, and a very cold and dull December. On the whole the year was a fairly good one for farming.

WILLINGTON.—R small, but many rainy days. The latter part of the year was very cold.

DERBY, ELVASTON.—Decidedly dry on the whole; particularly from February to July inclusive, and also in September, October and December. January, August and November were the only months with an excess of R. The total was 7·27 in. below the average of 10 years. Very cold in July and August, and most severe after December 13th, but the temp. was in excess in January, March, May September and October.

DIVISION VIII.—NORTH WESTERN COUNTIES.

CHELFORD, ASTLE HALL.—R 4·88 in. less than the average of 15 years, though the number of rainy days was quite up to the average.

NESTON, HINDERTON.—R 4 per cent. less than the average of 21 years.

WILMSLOW, SOUTHSIDE.—January, August, and November, were remarkable for heavy R; February, April, September,and December were very dry.

AIGBURTH, KELTON.—R 2·05 in. below the average of 10 years. It is worthy of note that the average for a period of ten years which seven years ago exceeded 35 inches, has now fallen below 31 inches owing to the deficiency of the last 7 years.

MANCHESTER, ALEXANDRA PARK.—The impression on the mind was that it was a wet year, but the result shows that the R was about 4·50 in. below the average.

BLUNDELLSANDS.—A very dry year, but much R in November, and frost and S from December 6th to the end.

BOLTON, THE FOLDS.—R 2·49 in. less than the average of 59 years. The evaporation amounted to 20·97 in., being ·52 in. less than the average of 59 years.

SOUTHPORT, BIRKDALE.—R rather more than four inches below the average of 18 years.

LYTHAM.—R 2·81 in. below the average of 13 years; November was the wettest month with 6·05 in., and February the driest, with ·57 in.

BLACKPOOL, SOUTH SHORE.—R 4·44 in., and evaporation ·24 in. above the average of 35 years.

ECCLESTON, ELSWICK LODGE.—R slightly below, and rainy days above, the average. Mean temp. slightly under the average, December being very cold. The fourth year of deficient R, the whole amount of the deficiency for the four years being 34·83 in., reducing the annual mean from 38·52 in. to 36·57 in.

CARTMEL, HOLKER.—February and December were the two driest months, and November was the wettest. Beautiful weather prevailed in May, the max. temp. of the year occurring on 24th. June, July, and August were very dull and sunless, some splendid weather followed in September, and the year ended with a most winterly December.

GRANGE, KENTS BANK HOUSE.—With the exception of February and December, which were very dry, the R was much above the average.

CARTMEL, PIT FARM.—R 3·50 in. above the average of 12 years, and the number of wet days remarkably great. The summer months were very cold and wet, the temp. in shade rising above 70° on only 26 days. December was the driest in 30 years, with very low temperature.

CARTMEL, BROUGHTON HALL.—The most notable features of the year were the dryness of December, February, and April, and the large amounts of R in January and November.

ULVERSTON, COLTON.—R 5·10 in. above the average of 16 years. December was the driest registered since 1853.

SEATHWAITE VICARAGE.—One of the most persistently wet years remembered.

DIVISION IX.—YORKSHIRE.

ROTHERHAM, THRYBERGH.—R below the average. The comparatively large amount during the summer months yielded very little, and in November, when there was a heavy fall (chiefly S), the land was so dry that the reservoir received very little benefit.

DONCASTER.—The R has for some years been below the average, and unless we get some in the early months of 1891, we (and several other towns in this district) shall be badly off for water next summer.

WATH-UPON-DEARNE, CHAPEL STREET.—A rather dry year, the total fall being 17 per cent. below the average of 25 years. Very little S fell in January and February; the summer was cool and cloudy, but the autumn was warm and pleasant.

WENTWORTH CASTLE.—R 3·10 in. below the average of 10 years.

DONCASTER, PUMPING STATION.—R considerably below the average. The heavy fall in November, chiefly S, was nearly all absorbed by the land, which was very dry. The River Don was very little affected by it.

MELTHAM, HAREWOOD LODGE.—R considerably below the average; February, September, and December were very dry, and January and November decidedly wet. After a fine spring the summer was disappointing, being cold and drizzling during the whole of July and August; September was very fine and warm. The most remarkable feature of the year was the severe cold of December, which was the coldest month for more than 12 years, with the exception of January, 1881.

WAKEFIELD, WALTON.—R 5·95 in. below the average of 15 years.

HUDDERSFIELD, DALTON.—R 4·20 in. below the average of 25 years.

WAKEFIELD, ALVERTHORPE HALL.—On the whole the year was a disappointing one. The weather was cold up to May, but that

month was warm and genial. The only TS during the year occurred on July 12th. September and October were warm and genial. The total R was below the average, February being very dry, with a fall of less than an inch.

SETTLE, THE TERRACE.—Very wet throughout, especially during the summer months.

OUGHTERSHAW.—One of the wettest summers recorded; much hay spoilt.

SEDBERGH, THORNS HALL.—A very wet and cold summer.

HULL, DERRINGHAM.—April and May were fine spring months; June was wet, cloudy and ungenial, the sunshine being about 50 per cent. below the average; July and August were also cool, while September was fine and warm, with R on only 11 days. The good weather continued until October 26th, when there was a sharp storm of S and sleet, followed by vivid L. Frequent falls of R and S occurred in November, and sharp frost prevailed all through December.

BEVERLEY, ALEXANDRA TERRACE.—The summer was cold, except September, which was an Indian summer. In August TSS occurred every day from the 9th to 16th, and from the 21st to 30th. November was stormy all through. Severe frost in December from the 4th to the end. R 3·05 in. below the average of 20 years.

DRIFFIELD, YORK ROAD.—The early part of the year was mild and warm, with a very bright period during March, April and May (205 hours of sunshine in May). The autumn was remarkably fine, and the winter early, the cold being severe towards the close of the year. Duration of sunshine above the average.

THIXENDALE.—The year opened with great mildness and ended with exceptional severity. Splendid harvest weather prevailed in September.

MASHAM, BURTON HOUSE.—The winter months were mild and open, and the spring was fine and favourable for crops; the summer was unsettled, with rather low temp. and an excessive R in August. Fine dry weather prevailed during harvest time, and it continued open and seasonable up to the autumn quarter. Severe and continued frost closed the year.

INGLEBY MANOR.—A very mild winter was followed by a fine spring; June, July and August were dull, cold and showery; the autumn was splendid. Frost set in on November 25th and continued till the close of the year. R about the average, without any very heavy falls.

EAST LAYTON [DARLINGTON].—The early months of the year were unsettled and ungenial; April was finer, but the four following months were simply a mockery of summer; fortunately September brought real summer weather, and October was a worthy successor. November and December were real old-fashioned winter months.

RICHMOND, FORCETT PARK.—Generally wet and cold, and the amount of sunshine below the average.

DIVISION X.—NORTHERN COUNTIES.

DARLINGTON, CLEVELAND PARADE.—R rather above the average and more equably distributed than is sometimes the case.

WITTON-LE-WEAR, WITTON TOWER.—R rather above the average. Very few TSS.

SUNDERLAND, WEST HENDON HOUSE.—R 3·17 in. above the average of 1860–77; 2·70 in. above the arithmetical average, and 2·96 in. above the geometrical mean of the 30 years 1860-89. April was the driest month, and with the exception of 1887 was the driest April since 1875. August was, with the exception of November 1878, when the depth was 7·10 in., the rainiest month recorded; there were in it three days on which more than 1·00 in. of R fell, viz.: 1st 1·21 in., 10th 1·11 in., and 12th 2·54 in., and these were the only days in the year on which more than 1·00 in. fell. Though S fell on 27 days the max. depth was only 2 inches on November 27th and 28th. Considering the eight principal points of the compass there was a marked excess of S.W. and W. winds, and a deficiency of N, and S. There was an excess of W. and N.W. winds in October and a very striking one of E in December. The N wind was the wettest in proportion to the time it blew, and the W. as usual the driest. The wind force was above the average in nearly every month, the excess being most marked in January, March and July. In December there was a marked deficiency. The number of days on which the alternation of sea and land breezes took place was below the average, though it is remarkable that this occurred on no less than 6 days in February, but in July, out of 27 days of observation on 3 days only, instead of the average of 8. The amount of fog was rather less than the average, but the year on the whole was more cloudy than usual. December was the most cloudy month of that name recorded, and perhaps the cloudiest month since February,

1879, the average having been 8·2, yet it contained the only absolutely cloudless day noted in the year.

HAYDON BRIDGE, RIDLEY.—R 3·90 in. above the average of 8 years.

PAWSTON [COLDSTREAM.]—The year comprised a mild dry winter, a cold spring (it was colder in April than during the whole of the winter), a droppy and cool summer; a magnificent September and October; a very wet November, and a bitterly cold December.

ULPHA VICARAGE, [BROUGHTON-IN-FURNESS].—Until the end of May the season was very forward, but from that time until the end of November there were only three periods of continued fair weather, September 6th to 16th, October 8th to 13th, and November 24th to 28th.

RAVENGLASS, HOLM ROOK.—R 12·28 in. above the mean of three years. The summer was unusually wet, and the R of November was very heavy.

ESKDALE VICARAGE.—August was exceedingly wet and stormy, and this weather continued more or less to the end of November. December was distinguished by hard frost, but was the finest month of the year.

BRAYSTONES.—R 5·23 in. above the average of 26 years; deducting, however, the phenomenal fall of 2·33 in. in 18 hours on November 30th, the excess was only 2·90 in. The evaporation was 25·76 in., being 3·98 in. less than the average.

WHITEHAVEN, IRISH STREET.—R 5·49 in. above the average of 14 years.

COCKERMOUTH, WHINFELL HALL.—R about 1·50 in. above the average of 35 years; the fall in November (10·08 in.) was nearly double the average, and that of December (·73 in.) was not one-eighth of the average.

COCKERMOUTH, BROUGHTON GRANGE.—A dry spring, but a wet and cheerless summer; the crops were fair, but fruit was poor and scanty. November was the wettest month since November, 1877.

BLENCOWE SCHOOL.—R exactly 5·00 in. below the average of 19 years; there were two very heavy falls, viz., September 30th, 1·75 in., and November 8th, 1·50 in. S was almost *nil*, and the same applies to T and L.

HESKET NEWMARKET.—The heaviest R since 1884.

CARLISLE, WREAY VICARAGE.—R 2·01 in. below the average of 10 years.

KENDAL, NATLAND PARK.—R unusually great, although the number of rainy days does not much exceed that of previous years. Continued frost prevailed during the last three weeks of the year.

KENDAL, ELLERGREEN.—The summer was remarkable for its low temp., want of sun, and the heaviest R for four years.

LONGSLEDDALE.—The wettest year known for many years.

BOWNESS, FALLBARROW.—The commencement and close of the year were marked by a curious correspondence. January was the wettest and February the driest of those months since the record commenced in 1882, while November was the wettest and December the driest during the same time. A remarkable fall of R occurred from 9 a.m. September 30th to 9 a.m. October 1st, 2·42 in. A scarcity of water in this district during the winter months, such as was experienced at the end of the year, is probably unprecedented.

DIVISION XI.—MONMOUTH, WALES AND THE ISLANDS.

TREDUNNOCK RECTORY.—R about two-thirds of the average. Wells dry after the end of August.

MONMOUTH, THE HENDRE.—A very dry year, with no great fall of R. Springs low at the close.

ABERGAVENNY, DYNE HOUSE.—The R of the year, and of nearly every month but January, was below the average; but there were few long periods of dry weather.

LLANVIHANGEL COURT.—The R was deficient; streams ran dry, and there was a good deal of water-carrying on the farms. January, August and November were the only really rainy months. In January the extremes of temp. were very great. March was dry, with severe frosts, and April was also dry; June was cold, and the nights were cold in July; December was remarkably severe.

MONMOUTH, PENTWYN.—R about one-third short of the average; but rainy days quite up to the average.

COWBRIDGE, FONMON CASTLE.—The fourth year in succession with a R considerably below the average. November and January were the wettest months, and February and December were very dry. All the springs fell considerably, and although the R of November replenished them a good deal, they were below the normal winter level at the end of the year.

COWBRIDGE, THE HAM.—The summer was drier than usual, and, as in 1887, all the wells failed.

NEATH, FAIRY LAND.—Very cold and wet; the number of rainy days being very great, though the total R was not above the average.

TEGFYNYDD.—A cold, wet summer, without any great quantity of R. The rivers all remarkably low.

HAVERFORDWEST.—January commenced with severe frost, but after the 3rd, constant R fell, with temp. above the average. February was much colder, with a small R. Great severity of frost ushered in March, which was another very dry month. April commenced with sharp frost, and clear bright weather prevailed. The summer was wet, cold and sunless, with temp. much below the mean. The first two-thirds of September were very fine, but the autumn was wet and stormy, with deficient temp. Severe frost set in on November 26th, and prevailed to the close of the year.

NEW RADNOR, DOWNTON.—R about 15 per cent. below the average. Only January, August and November were wet months. December was bitterly cold, with S on the ground almost throughout.

RHAYADER, NANTGWILLT.—A dry year; only three months—January, August and November—reaching the average of 1880—89.

CHURCHSTOKE, MELLINGTON HALL.—R 4·19 in. below the average of 16 years. February, March, April, June, July, September, October and December all had less than the average. January was the wettest recorded, and December the driest.

WELSHPOOL, POOL QUAY.—R only ·22 in. below the average of the four years observed; but they have all been dry. The summer was comparatively dry, hay being got in with little trouble, while it was out for weeks, even so near as Oswestry.

ST. ASAPH, NANTLLYS.—The R was so distributed that the sub-soil was generally fairly dry, and springs were short in the autumn.

CERRIG-Y-DRUIDION.—Springs were very dry most of the summer.

ROSSET, TREVALYN HALL.—R 3·26 in. below the average of 15 years. The only months which were in excess were January, June and November, some very heavy rains occurring in the last-named month. The temp. was generally low in summer and high in autumn, the max. occurring in September. Frost set in on November 25th, and continued to the end of the year.

DOUGLAS, VICTORIA ROAD.—January was remarkable for its high temp. and almost uninterrupted S.E. and S.W. gales. April was fine, and the spring forward, but May was wintry, with cold, strong N.W. gales and much R. June was especially wet and cold, and all through July and August strong cold Polar winds blew with little

intermission, the latter part of August being extremely cold. September, except from 6th to 16th, was cold, wet and stormy, and November was terribly wet (R 9·81 in.) and stormy. There was literally no summer, and the temp. never once reached 70° in shade. The period May to October was probably the coldest since observations were commenced in 1874, and the prevalence of N. to N.W. winds, strong to a moderate gale, for 5 months as remarkable as it was unpleasant. There were 7 falls of R exceeding an inch in 24 hours.

ST. HELIER. — Remarkable for the constant rains during the summer months, and for the heavy R storms in July.

SCOTLAND.

DIVISION XII.—SOUTHERN COUNTIES.

KIRKCUDBRIGHT, SENWICK.—A cold, damp summer, but September and October fine.

DUMFRIES, IVY BANK.—R rather under the average ; January and November very wet, December unprecedentedly dry.

MELROSE ASYLUM.—The R was ·21 in. less than the average of 8 years, but the number of rainy days was 23 more than the average, and the greatest recorded.

MELROSE, ABBEY GATE.—R 6·60 in., and rainy days 11 below the average. Mean temp. 0°·3 below, and number of frosty nights 9 above, the average.

DIVISION XIII.—SOUTH EASTERN COUNTIES.

BO'NESS, GRANGE.—January was very mild, but wet, with strong westerly gales ; February was fine and dry, but colder ; March very mild, with W. winds. May was dull, and June and July were cool, being little warmer than May ; August was wet, with a fall of 2·00 in. during a TS on 12th. September and October were fine, November had sharp frost, and December was very dry.

DIVISION XIV.—SOUTH WESTERN COUNTIES.

CAMBUS WALLACE.—The early spring was very fine ; summer was wet and cold, but sunny days prevailed about the middle of September and beginning of October.

DOCHROYLE.—R 1·19 in. above the average of 15 years. November was the wettest month recorded in the whole period.

DIVISION XV.—WEST MIDLAND COUNTIES.

CRAIGEND CASTLE.—Wet, with very little sun, and the summer cold. January was mild but wet; February was dry and March fair; April and May were dry and mild; June and July wet and cold, and August very showery; September, October and December dry, but November very wet.

BUCHLYVIE.—Changeable, cool, wet and unsettled. The R in January, June, September and November was greatly above, and in February, April and December much below, the normal amount.

LOCHGILPHEAD, KILMORY.—The year was remarkable for excessive R, especially from June to November inclusive; old people say that there has been no such bad harvest weather since 1837. This was followed by a severe winter.

BALLACHULISH.—A very wet year. January exceptionally wet, and February and December as remarkably dry.

SKIPNESS CASTLE.—The summer months were the wettest for 20 years.

ISLAY, ARDBEG.—A cold, wet sunless summer and a broken autumn.

DIVISION XVI.—EAST MIDLAND COUNTIES.

KINROSS, TURFHILLS.—The early months were mild, and free from frost, but after May the weather was cold and wet, very heavy falls of R occurring in September and November.

KIPPENDAVIE.—R 1·65 in. above the average of 39 years.

CALLANDER, LENY.—Distinguished by a want of summer, the only summer-like weather being the last fortnight of May and the first fortnight of September.

COUPAR ANGUS.—February and April yielded remarkably little R and the fall generally was much below the average till November. The summer was marked by an absence of high temp.

DIVISION XVII.—NORTH EASTERN COUNTIES.

FETTERCAIRN.—R below the average. April was very dry and November exceptionally wet. May, June and July were dull, cloudy and rainy, though the totals for the months were not excessive.

MIDMAR, BLACKSTOCK.—Cold and dry till August; wet and warm after.

ELLON, KERMUCK.—The late spring and early summer were genial and favourable, but the weather afterwards was overcast, rough and changeable. The autumn ended with a protracted and excessive R in the last half of October and first half of November.

CULLEN HOUSE.—The summer was the most sunless remembered, but though there was constant light R the ground, at a little depth, was dry. September was fine, followed by an abundance of R.

FORRES, GRANGE HALL.—R far above the average, July and August being specially wet.

DIVISION XVIII.—NORTH-WESTERN COUNTIES.

CONTIN, KINNAHAIRD.—One of the wettest and coldest years on record.

FORT AUGUSTUS.—An exceptionally wet year; R 8·70 in, and rainy days 12, above the average of 7 years. February and December were noteworthy as the two driest months in the same period, while January was exceptionally wet, the fall exceeding an inch on three days,

DRUMNADROCHIT.—R 2·97 in. above the average of four years, and as 2·18 in. of this excess occurred in the summer months, June to August, when R fell on 68 days, the season deserved its character for wetness.

DIVISION XIX.—NORTHERN COUNTIES.

GOLSPIE, DUNROBIN CASTLE.—R above the average. Harvest late, and in some cases indifferently secured, owing to the wet autumn.

SCOURIE.—Frequent gales occurred in January, accompanied in most instances by T, L, and H showers. February, March and April were fine and open with occasional frost, but little or no S. May was exceedingly hot. The remaining months of summer and autumn were abnormally wet, and sunshine was seldom present. Continuous R delayed the harvest till the end of October, and partially injured it.

KIRKWALL.—The heaviest R since 1882.

IRELAND.

DIVISION XX.—MUNSTER.

CORK, CLARENCE PLACE.—R about 2·00 in. less than the average, but number of rainy days in excess. There was no period of drought, and no great R in a short period, the heaviest noted being ·25 in. in half-an-hour during a TS on August 1st. It is worthy of remark, as apparently exceptional, that not only was the warmest day in September (5th, 75°·5), but that the mean temp. of that month (59°·2) was higher than that of June, July, or August.

DARRYNANE ABBEY.—A very wet summer, and little sunshine throughout the year.

KNOCKADERRY.—Hardly any frost occurred in the winter months, and the summer was to a great extent sunless. There was much less evaporation from the surface of the reservoir than in previous years.

WATERFORD, NEWTOWN.—Not a bad year on the whole; R about the average, the three wettest months being in the winter, when the R did little harm.

WATERFORD, TICOR.—The level of water in wells was lower than in any year of the past decade.

DERRY CASTLE.—R only ·85 in. above the average of the last decade, but number of rainy days the greatest recorded. January and November were very wet, February and April dry, December was also dry, but very harsh. During the remaining months the R varied little from the average, but the number of wet days from May to November inclusive, was unprecedentedly large. On 9 days more than an inch of R was recorded, and the year altogether was disastrous to farmers; harvesting was extremely difficult and turf could not be saved at all.

NENAGH, CLASHNEVIN.—The early months of the year were favourable for agriculture, but the summer was cool and cloudy, and wanting in sun; September being a fine month, corn was saved in good time.

CASTLE LOUGH.—Although the R was not great, the number of days on which it fell, especially during May, June and July, made it appear a wet year. November was very rainy and December was frosty, in the latter part, with sudden thaws.

LIMERICK, ROXBOROUGH.—Although the R exceeded that of 1889 by only an inch, the year proved, from a farmer's point of view, a

disastrous one owing to the absence of sun in June, July and August, and the prevalence of misty, foggy weather in July.

BROADFORD, HURDLESTOWN.—A very wet year. May and June were specially wet, and cold also. December was fine and frosty.

MILTOWN MALBAY.—The greatest R since 1879. Temp. low until July, thence, to the end of November mild and warm, December cold and frosty. Very little sunshine during the year.

DIVISION XXI.—LEINSTER.

GRAIGUE, BRANDONDALE.—January, February and March were very mild, there being little frost, but the end of the year was rather severe, having both frost and S.

KILKENNY, LAVISTOWN.—The year was remarkable, more for want of sunshine than for excessive R, and was consequently rather against the agriculturalist.

ABBEY LEIX, BLANDSFORT.—R an inch, and rainy days 17, above the average of 16 years

STRAFFAN HOUSE.—A genial open spring, was followed by a cold, damp and sunless summer, but September was a splendid bright warm month. February was exceptionally dry.

DUBLIN, PHŒNIX PARK.—R 1·17 in. below the average of 10 years.

BALBRIGGAN, LARAGH.—R 2·32 in. below the average of 10 years.

ATHLONE, TWYFORD.—The summer months were very wet without having a very great total fall.

LOUTH, STEPHENSTOWN.—R about 4·00 in. below the average.

DIVISION XXII.—CONNAUGHT.

CLIFDEN, KYLEMORE HOUSE.—On the whole the year was very wet and stormy, with little or no S or frost.

KYLEMORE CASTLE.— A beautiful spring; but the summer was very cold and sunless. The winter months were dry, but cold.

TUAM, GARDENFIELD.—R 3·00 less than the average of ten years. January was very wet, but the spring months were dry; June and July were wet and cold; August was cold, and it, and the two following months, had less than the average R. November was exceptionally wet, and December was cold, with severe frost on many nights.

BALLINROBE, KILRUSH.—A cold and ungenial year; the temp. in summer seldom reaching 60°.

BALLINAMORE, LAWDERDALE.—A wet year; not so much on account of the extra quantity of R, as the number of days on which it fell, especially from June to November, inclusive.

DIVISION XXIII.—ULSTER.

FLORENCE COURT.—R below the average; few hot days in summer, and less than the usual amount of sunshine.

LURGAN, BELLE VUE.—February dry; about the average number of wet days, but less R than usual in July; October dry; November unusually wet; December dry.

SYDENHAM, ALMA HOUSE.—R 5·01 in. below the average of 23 years.

NEW BARNSLEY.—Nearly as much R fell in the last three months as in the first six, November being exceptionally wet, with more than an inch of R on three days. The summer was cool, dull, and damp, but hardly to be called wet.

STEWARTSTOWN.—R about the average.

STEWARTSTOWN, ARDTREA.—R ·99 in. below, and rainy days 12 above, the average of 10 years. November was the wettest month recorded during the whole period.

RAPHOE, CONVOY HOUSE.—The R was moderate, though it got the name of a very wet year owing to being distributed over a great many days. The temp. was low almost throughout, the summer being cloudy and dark, with almost no sunshine.

BUNCRANA, ROCKFORT.—The latter half of the year was unusually wet, November especially.

MOVILLE, PROSPECT VILLA.—Very wet during summer and harvest time.

HEAVY RAINS IN SHORT PERIODS IN 1890.

THIS list is remarkable for the smallness of the amounts reported —a curious contrast to the exceptionally large amounts with which I shall have to deal, when it comes to the question of maximum falls, that is to say of falls in 24 hours. I am afraid that this must be accepted as proving that observers have not been as careful as they should have been in trying to record the details of heavy rain storms. I am quite aware that sometimes this involves getting wet, and that it is even possible, by hurrying over an observation of this kind, to make a mistake and so spoil the record; that, of course, is worse than losing the details of an exceptional rain. I know that everyone cannot afford a storm rain gauge, whereby all these inconveniences can be avoided, and that at present there are not nearly enough recording rain gauges, although their greatly reduced price ought to have increased their number. But allowing for all this, if observers took more interest in this class of work, we should have a better list.

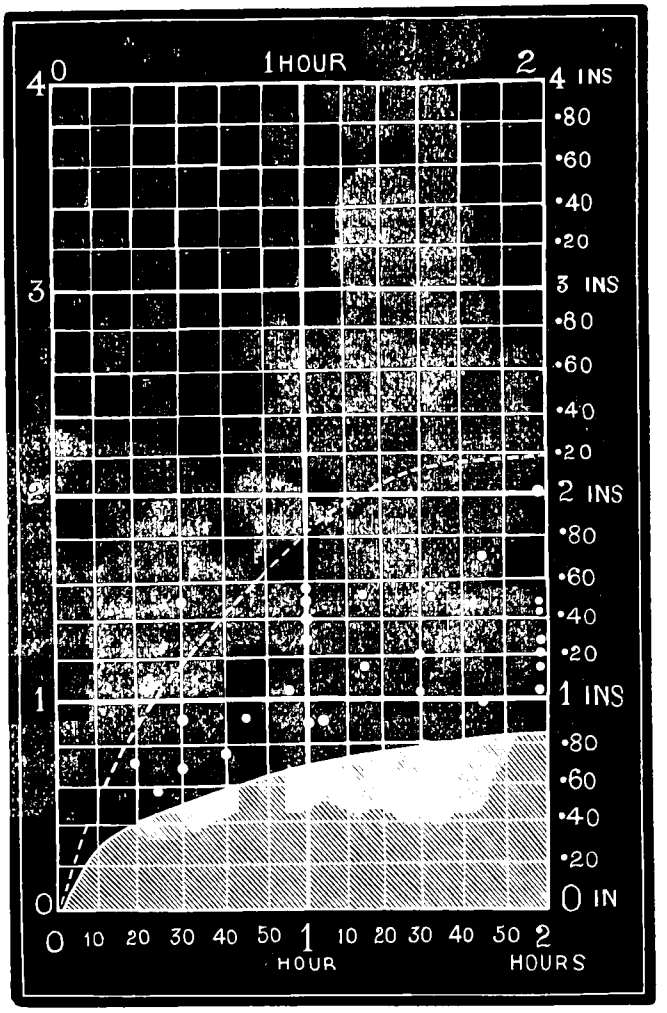
At the same time I do not suggest that the poverty of this list is wholly due to neglect. I am sure that it is not; rains of high intensity and of short duration were not general in 1890, and when they did occur, as on July 17th, they were superimposed upon steady rain, so that observers left the measurement until the rain ceased, and so the short heavy fall became merged in the daily total, and no record was secured for this table.

There is only one "exceptional" record for 1890, that of 1·46 in. in "about" 30 minutes at Little Casterton, and of course its value is impaired by that word "about." No other entry calls for comment.

The entries in the following table are also, as usual, shown on the diagram, respecting which a few words may be useful. It will at once be seen that the time scale runs horizontally, the depth vertically. The shaded portion represents falls which occur so frequently as to be unworthy of notice, and the upper pecked line represents the limits beyond which falls are rare—*e. g.*, during the

past twelve years falls above the pecked line were reported as under :—

1879 ... 6	1882 ... 2	1885 ... 2	1888 ... 10
1880 ... 4	1883 ... 6	1886 ... 5	1889 ... 7
1881 ... 2	1884 ... 4	1887 ... 1	1890 ... 1



Heavy Falls in Short Periods in 1890.

Date.	Div.	Station.	Amount.	Duration.	Rate per hour.
			in.	hr. min.	in.
May 25 ...	V.	Minehead, Exford Rectory ...	·70	... 22	1·91
Aug. 11 ...	VII.	Southwell.....	·57	... 25	1·37
May 19 ...	,,	Stamford, Little Casterton ...	1·46	... 30?	2·92
June 12 ...	,,	Southwell...	·89?	... 30	1·78?
July 14 ...	VIII.	Broughton-in-Furness	·65	... 30	1·30
Aug. 28 ...	VI.	Hoar Cross	·76	... 40	1·14
June 10 ...	IX.	Ilkley	·90	... 45	1·20

Date.	Div.	Station.	Amount.	Duration.		Rate per hour.
			in.	hr.	min.	in.
July 17 ...	III.	Slough, Langley	1·02	...	54	1·13
May 25 ...	V.	Rousdon Observatory	1·56	1	0?	1·56?
July 17 ...	I.	Finchley, Elmhurst	1·50	1	0?	1·50?
Nov. 6 ...	XXIII.	Killybegs	1·40	1	0	1·40
,, 22 ...	,,	,, ...	1·32	1	0	1·32
Sep. 17 ...	VIII.	Birkdale	·87	1	0	·87
Aug. 11 ...	IX.	Driffield	·89	1	6	·81
Sep. 23 ...	I.	Teddington	1·53	1	15	1·22
July 17 ...	II.	Farnham, Seale	1·15	1	15	·92
May 25 ...	XI.	Gower, Pilton Green	1·20	1	30	·80
Aug. 1 ..	XX.	Broadford, Hurdlestown	1·04	1	30	·65
May 25 ...	XI.	Swansea	1·53	1	33	·99
July 17 ...	I.	Stanmore Observatory	1·72	1	45	·98
,, ,, ...	II.	Chobham	·99	1	45	·56
Aug. 12 ...	XIII.	Innerleithen, Runic Cross.....	2·00	2	0	1·00
,, 19 ...	IV.	Upminster Hall	1·47	2	0	·74
,, 11 ...	I.	Finchley, Elmhurst	1·44	2	0	·72
July 17 ...	II.	Monk Sherborne	1·23	2	0	·62
,, ,, ..	IV.	Diss	1·20	2	0	·60
Oct. 2 ...	XVIII.	Ben Nevis Observatory.....	1·15	2	0	·58
Mar. 11 ...	,,	,, ,, ...	1·03	2	0	·52
July 5 ...	II.	Ramsgate, The Vale	1·67	2	25	·69
,, 17 ...	,,	Guildford, Wern.....	2·61	2	30	1·04
May 25 ...	XI.	Gower, Penmaen	1·52	2	30?	·61?
,, ,, ...	V.	Tiverton, St. Peter Street ..	4·50	3	0	1·50
July 17 ...	III.	Slough, Langley	1·01	3	0	·34
,, ,, ...	I.	Finchley, Elmhurst	1·67	3	30	·48
,, ,, ...	,,	Tottenham	1·32	3	30	·38
,, ,, ...	III.	Rickmansworth, Moor Park...	4·19	4	0?	1·05?
May 25 ...	V.	Rousdon Observatory.....	2·21	5	0	·44
July 17 ...	II.	Forest Hill, Barr Beacon	1·71	5	0	·34
May 25 ...	V.	Clevelands [Lyme Regis]	2·77	6	0	·46
Mar. 11 ...	XVIII.	Ben Nevis Observatory.....	2·35	6	0	·39
July 17 ...	III.	Great Marlow	2·32	6	0?	·39?
May 25 ...	,,	Tiverton, Broomhill	5·20	7	45	·70
Aug. 12 ...	X.	Sunderland	2·25	10	0	·23
,, ,, ...	,,	West Hendon House.....	2·43	10	30	·23
July 17 ...	I.	Stanmore Observatory	2·91	12	0	·24

HEAVY FALLS IN 24 HOURS IN 1890.

INTRODUCTORY.

THIS section always serves one purpose for which it was not intended —it invariably convicts some of my correspondents of not attending to Rule IX., and of setting the rain down to the day on which they measure it, instead of, as they should, to the day before.

It is also desirable to point out here, that the figures to be quoted in this section all refer to a period of 24 hours ending at 9 a.m. on the day following that upon which they are entered.

Further, in order to prevent this section being too long, it is necessery each year to examine the data and to resolve on the limit, below which it would be waste of time and of money to set out the falls *in extenso*. Unfortunately the fall in different years varies so much, that no uniform rule seems practicable; usually we have taken all falls exceeding 2 inches or exceeding 6 per cent. of the year's total; but in 1889 there were nearly 500 such entries; we therefore raised the limits and quoted no falls unless they exceeded $2\frac{1}{2}$ inches, or exceeded 8 per cent. In 1890 we are met by a similar plethora of heavy falls, and have therefore adopted the same limits; even that, however, leaves some very long lists for quotation.

We have for many years past considered these Heavy Falls in two ways—(1) Individually as regards their geographical distribution as to date, locality, and intensity, under the general head of "Chronicle," and (2) Collectively under the head of "Abstract," we deal with the heavy fall at each of more than 2000 stations.

CHRONICLE.

This chronicle generally starts with a few local rains in mountain districts, large in amount because they are at wet stations, but for that very reason not exceptional, and not yielding high percentages. That is the character of the first eight entries and we leave them without further comment:—

JANUARY 21ST.

XI.	Llanderfel (Pale Gardens)	2·94 in. or	7·0 per cent.
,,	Llanberis (Glyn Padarn)	3·21 ,,	4·4 ,,

JANUARY 25TH.

XI.	Aberdare (The Mardy).....	3·61 in. or	7·3 per cent.

JANUARY 27TH.

XI.	Craig-y-nos Reservoir	2·92 in. or	4·1 per cent.
,,	Lake Vyrnwy.....	2·56 ,,	5·0 ,,

MARCH 15TH.

XXIII.	Castlewellan (Lough Island)	2·70 in. or	5·8 per cent.

MARCH 26TH.

XI.	Blaenau-Ffestiniog (Cefn-y-Maes) ...	4·25 in. or	4·2 per cent.

MAY 22ND.

X.	Wythburn Vicarage	4·02 in. or	4·2 per cent.

MAY 25TH.

This was the Whit Sunday storm which will long be remembered in the West of England for its exceptional intensity, and for the ruin it wrought. It is greatly to be regretted that all the observers in the town of Lyme Regis (Mr. Ames of Clevelands is out of the town) allowed their gauges to fill and run over, except the observer at Holme Cleve, who apparently observes only occasionally, as though twice applied for, no complete record for the year has been received. It was otherwise with those at Tiverton, and we heartily thank the observers there for thus securing a record of considerable engineering value, and one which very probably may not occur again in Tiverton for a century. The figures in the table speak for themselves, and as the fall has been already dealt with on page [13], and also in the *Met. Mag.*, the subject need not be farther pursued.

V.	Lyme Regis (Holme Cleve)..	3·70 in. or	—	per cent.
,,	Clevelands [Lyme Regis]..	2·77 ,,	7·6	,,
,,	Tiverton (Ivy Place, St. Peter's St.)	4·85 ,,	13·3	,,
,,	,, (Broomhill)	5·20 ,,	13·4	,,

JUNE 30TH.

A heavy but very local fall.

IX.	Hull (Pearson Park)	2·10 in. or	8·8 per cent.

JULY 4TH.

This fall, as shown by the following table, was most remarkable in Kent, but it extended with less intensity over the whole of the S.E. of England, from Dover to the Isle of Wight, and from Eastbourne to the suburbs of London.

II.	Folkestone (Capel Lodge)	2·58 in.	or 9·0 per cent.
,,	Dover (Randolph Gardens)	2·50 ,,	9·0 ,,
,,	Maidstone (Linton).....	1·92 ,,	8·2 ,,
,,	,, (Mount House)	2·54 ,,	9·5 ,,
,,	,, (Debtling	2·45 ,,	8·6 ,,
,,	Lynsted (The Batteries)	2·94 ,,	11·3 ,,

JULY 8TH.

Knowing something of the strength of the wind in Scotland, and knowing also many of the Scotch lighthouses, I am aware that it is difficult to be always sure that the water in the rain gauge is rain and not spray. When, however, the returns agree as closely as the following, it is not easy to see how they can be wrong—and we must accept them as proving a rain nearly equal in intensity, and far exceeding in area that which did so much mischief at Tiverton on May 25th, 1890. The last entry is not entitled to insertion, because it does not exceed 2½ in. or 8 per cent., but is added as corroborative evidence independent of lighthouse returns.

XIX.	Stronsay (Auskerry)	3·10 in.	or 8·4 per cent.
,,	Sanda (Start Point)	5·00 ,,	15·4 ,,
,,	North Ronaldshay	2·50 ,,	7·5 ,,
,,	Sumburghead	3·00 ,,	9·4 ,,
,,	,, (Dunroseness)	2·17 ,,	6·0 ,,

JULY 17TH.

We have now to deal with the most important fall of the year—and indeed with a fall which will long be remembered for its large extent, and in some localities, for its exceptional amount.

The fall seems to have had two causes—one general, the other local.

A general rain prevailed over almost the whole of Southern England; it began in Devon and Cornwall on the 16th, and produced great floods on the river Tavy and other streams running off Dartmoor. It then travelled eastwards, and on the 17th extended to the Norfolk coast. Meanwhile thunderstorms had broken out in several districts, and in those localities further increased the total rainfall. Thus it is that we have the very remarkable table which follows, and of which the leading features are shown on the map (*Frontispiece*). This shows that over an area of about 2,500 square miles there was a rainfall of upwards of 2 inches—and over an area of about 240 square miles it exceeded 3 inches. This be it remembered in a dry part of the country, where the average for a whole year is only from 25 to 27 inches. It is not unusual to have one-

tenth of the yearly total recorded for one day, but it is most unusual for such a fall to prevail over a large area.

As was to be expected, several gauges were allowed to run over—but as one or two of them probably lost very little, the records have been allowed to appear in the table, with of course the +, *e.g.* 3·20in. + *i.e.* 3·20 in. and some unknown quantity besides.

JULY 17TH.

I.	Sunbury (Hanworth Road)	2·94 in.	or 13·5 per cent.)
,,	Teddington (Gomer House)	2·02 ,,	8·6 ,,
,,	Staines (Belle Vue)	3·60 ,,	... ,,
,,	,, (Knowle Green)	3·20 +	16·3 ,,
,,	Twickenham (Holy Trinity Vic.)	2·09 ,,	9·9 ,,
,,	,, (Vale Ho.)	1·85 ,,	9·3 ,,
,,	Chelsea (Carlyle Mansions)	1·96 ,,	10·2 ,,
,,	,, (St. Luke's Gardens)	1·93 ,,	9·3 ,,
,,	Ealing (Local Board Office)	2·17 ,,	10·7 ,,
,,	Kensington (Edith Road)	1·92 ,,	9·6 ,,
,,	,, (Holland House)	1·91 ,,	9·1 ,,
,,	,, (Addison Gardens)	1·95 ,,	8·9 ,,
,,	,, (Campden Hill)	2·03 ,,	9·2 ,,
,,	,, (Lansdowne Crescent)	2·03 ,,	9·1 ,,
,,	,, (Norfolk Terrace)	1·85 ,,	8·1 ,,
,,	London (Guildhall, E.C.)	1·75 ,,	8·7 ,,
,,	Hillingdon	4·00 +	... ,,
,,	Perivale (Sewage Farm)	2·46 ,,	12·4 ,,
,,	London (Gloucester Place)	1·72 ,,	8·1 ,,
,,	,, (235, Camden Road)	1·73 ,,	8·0 ,,
,,	Hampstead (Roslyn House)	2·33 ,,	10·4 ,,
,,	,, (Kidderpore Reserv.)	2·21 ,,	10·1 ,,
,,	,, (Squire's Mount)	2·24 ,,	10·2 ,,
,,	Stoke Newington Res., N.	1·87 ,,	8·5 ,,
,,	Highgate (Northwood Road)	2·15 ,,	9·2 ,,
,,	Tottenham	1·98 ,,	8·6 ,,
,,	Muswell Hill	2·14 ,,	8·3 ,,
,,	Finchley, East (Elmhurst)	2·72 ,,	10·8 ,,
,,	,, (Etchingham Park) 5"	2·57 ,,	10·1 ,,
,,	,, (,, ,,) 8"	2·56 ,,	10·0 ,,
,,	Harrow Weald (Hill House)	2·38 ,,	10·2 ,,
,,	Stanmore Observatory	2·92 ,,	12·6 ,,
,,	Friern Barnet (Sewage Works)	2·10 ,,	9·2 ,,
,,	Whetstone	2·81 ,,	11·6 ,,
,,	Enfield (Old Park)	2·20 ,,	8·4 ,,
,,	Monken Hadley [Barnet]	2·00 ,,	8·1 ,,
II.	Farnham (Great Down Seale)	2·15 ,,	9·7 ,,
,,	Guildford (Wern)	2·61 ,,	10·7 ,,
,,	Woking (Horsell Vic.)	2·31 ,,	10·5 ,,
,,	Bagshot (Collingwood)	2·39 ,,	9·8 ,,
,,	Chobham	1·97 ,,	9·3 ,,
,,	Chertsey (Ottershaw)	1·82 ,,	8·3 ,,
,,	Weybridge Heath (Netherfield)	1·75 ,,	8·2 ,,
,,	,, ,, (Oakfield)	1·84 ,,	8·6 ,,
,,	,, (St. George's Lodge)	1·80 ,,	8·7 ,,
,,	Walton-on-Thames (Hersham)	1·98 ,,	9·4 ,,
,,	Chertsey (Long Cross)	2·00 ,,	8·9 ,,

II.	East Molesey (Palace Road)	2·03 in.	9·7	per cent.
,,	Kingston (Sewage Works)	2·62 ,,	11·5	,,
,,	West Norwood	2·47 ,,	10·9	,,
,,	Egham (Cooper's Hill)	3·33 ,,	14·3	,,
,,	Richmond (Ormond Lodge)	2·27 ,,	10·2	,,
,,	Kew Observatory	2·29 ,,	10·8	,,
,,	Forest Hill (Barr Beacon)	2·17 ,,	9·8	,,
,,	Deptford (Kent W. W.)	1·82 ,,	8·7	,,
,,	,, (Pumping Station)	2·11 ,,	8·5	,,
,,	Erith (Crossness)	2·15 ,,	10·6	,,
,,	,, (,,)	1·88 ,,	9·4	,,
,,	Yarmouth (National School)	1·85 ,,	8·2	,,
,,	Bournemouth (Wellington Ho.)	2·49 ,,	9·6	,,
,,	Andover (The Knoll)	2·49 ,,	9·7	,,
,,	Aldershot	2·21 ,,	8·9	,,
,,	Basingstoke (Chapel Hill)	1·85 ,,	8·3	,,
,,	Fleet (Claremont Ho.)	2·10 ,,	8·2	,,
,,	Basingstoke (Monk Sherborne)	2·68 ,,	10·9	,,
,,	,, (Sherborne St. John) ...	2·44 ,,	10·2	,,
,,	Kingsclere (Ramsdale)	2·17 ,,	10·0	,,
,,	Hartley Wintney	2·15 ,,	8·8	,,
,,	Bramley	2·29 ,,	10·3	,,
,,	Heckfield (Park Corner)	2·00 ,,	9·5	,,
,,	Sandhurst Lodge	2·37 ,,	10·3	,,
,,	Newbury (Donnington Square)	2·07 ,,	9·0	,,
,,	Wokingham (Wellington Coll.)	2·85 ,,	12·3	,,
,,	Hungerford (Denford Park)	2·01 ,,	8·2	,,
,,	Old Windsor (Friary Gardens)	2·56 ,,	11·3	,,
,,	Reading (Russell Street)	2·65 ,,	12·5	,,
,,	,, (Forbury Gardens)	2·83 ,,	13·0	,,
,,	,, (East Thorpe)	3·10 ,,	13·5	,,
,,	Twyford (Hurst Grove)	2·67 ,,	12·5	,,
,,	Newbury (Welford Park) *o.g.*	1·92 ,,	8·2	,,
,,	Maidenhead (Lowood)	2·94 ,,	13·3	,,
,,	,, (Castle Hill Ho.)	3·10 ,,	12·3	,,
,,	,, (Cookham Vic.)	3·37 ,,	15·4	,,
,,	Shrivenham (Ashbury Vic.)	2·23 ,,	9·3	,,
,,	Wantage (Letcombe Regis)	2·55 ,,	11·8	,,
,,	Wallingford Castle	2·35 ,,	12·1	,,
,,	Little Wittenham Rec.	1·67 ,,	9·4	,,
,,	Long Wittenham (Manor Ho.)	1·95 ,,	10·3	,,
,,	,, ,, (Lovegrove'sCott.)	2·00 ,,	10·2	,,
,,	Faringdon (The Elms)	2·77 ,,	12·3	,,
III.	Rickmansworth (Moor Park)	4·19 ,,	15·2	,,
,,	Elstree (Aldenham Ho.)	1 66 ,,	8·5	,,
,,	Broxbourne (Stafford Ho.)	1·77 ,,	8·1	,,
,,	St. Albans (The Grange)	2·00 ,,	8·6	,,
,,	,, (Gorhambury)	2·08 †	9·8?	,,
,,	Hertford (Haileybury Coll.)	2·48 ,,	9·7	,,
,,	Harpenden (Rothamstead) 5''	2·52 ,,	10·5	,,
,,	,, (,,) 8''	2·50 ,,	10·6	,,
,,	Welwyn (Brocket Hall)	2·55 ,,	11·2	,,
,,	Ware (Fanhams Hall)	1·65 ,,	8·0	,,
,,	Welwyn (Danesbury)	2·64 ,,	10·9	,,
,,	,, (Datchworth Rec.)	1·91 ,,	8·9	,,
,,	Hitchin (Wratten)	1·88 ,,	9·1	,,
,,	,, (The Maples)	1·87 ,,	9·1	,,

III.	Hitchin (Bancroft)	2·02 in.	8·9 per cent
,,	,, (High Down)	2·00 ,,	9·9 ,,
,,	Stevenage (Weston Manor)	1·75 ,,	9·1 ,,
,,	Royston (Therfield)	2·48 ,,	10·9 ,,
,,	,,	1·99 ,,	10·7 ,,
,,	Slough (Langley)	3·68 ,,	17·2 ,,
,,	,, (Upton)	2·75 ,,	14·1 ,,
,,	Taplow Court	3·45 ,,	16·0 ,,
,,	Burnham (The Elms)	2·58 ,,	12·7 ,,
,,	Greenlands	2·00+	... ,,
,,	Great Marlow	2·32 ,,	9·7 ,,
,,	Aylesbury (New Road)	2·30 ,,	9·9 ,,
,,	,, (Waddesdon)	1·96 ,,	8·5 ,,
,,	Winslow (Addington Manor)	2·20 ,,	10·3 ,,
,,	Buckingham (Adstock)	2·45 ,,	11·1 ,,
,,	Stony Stratford (Thornton)	2·08 ,,	10·0 ,,
,,	Whitchurch Rec.	2·05 ,,	9·9 ,,
,,	Henley-on-Thames (Assenton)	1·75 ,,	8·2 ,,
,,	Dorchester	1·81 ,,	10·6 ,,
,,	Watlington (Pyrton Manor)	1·71 ,,	8·1 ,,
,,	Luton (Pumping Station)	1·96 ,,	8·7 ,,
IV.	Romford (N. Ockendon)	1·80 ,,	8·0 ,,
,,	Upminster Hall	2·13 ,,	8·2 ,,
,,	Woodford (Brancepeth House)	2·46 ,,	10·3 ,,
,,	,, (The Harts)	2·72 ,,	10·4 ,,
,,	,, (Hagger Lane)	2·74 ,,	12·7 ,,
,,	Brentwood (Dudbrook House)	2·47 ,,	8·7 ,,
,,	Loughton (High Beech)	2·14 ,,	8·2 ,,
,,	WalthamAbbey(GunpowderFactory)	2·01 ,,	9·9 ,,
,,	Chelmsford (Writtle)	2·01 ,,	9·7 ,,
,,	,, (Roxwell)	2·35 ,,	10·7 ,,
,,	Harlow (Sheering)	1·79 ,,	8·5 ,,
,,	Braintree (Bocking Place)	2·41 ,,	9·5 ,,
,,	Bury St. Edmunds (Abbeygate St.)	2·30 ,,	11·1 ,,
,,	,, ,, (Hengrave)	2·40 ,,	10·3 ,,
,,	,, ,, (Westley)	2·70 ,,	10·6 ,,
,,	Yarmouth (Belton)	2·11 ,,	9·2 ,,
,,	Stoke Ferry (Wereham)	1·85 ,,	8·2 ,,
V.	Trowbridge (Steeple Ashton Vic.)	2·04 ,,	8·3 ,,
,,	Bradford (Holt)	2·27 ,,	9·0 ,,
,,	Buttermere	3·04 ,,	10·7 ,,
,,	Shalbourne	2·25 ,,	9·1 ,,
,,	Marlborough (Mildenhall)	2·25 ,,	9·7 ,,
,,	Ramsbury	2·34 ,,	10·5 ,,
,,	Ogbourne Maizy	2·04 ,,	9·0 ,,
,,	Broad Hinton	2·52 ,,	10·8 ,,
,,	Wootton Bassett	2·42 ,,	10·7 ,,
,,	Swindon (New)	2·34 ,,	9·8 ,,
,,	Highworth (Hannington)	3·28 ,,	13·7 ,,
,,	Ilminster (White Lackington)	2·61 ,,	8·9 ,,
,,	Langport (Huish Episcopi)	3·24 ,,	12·6 ,,
VI.	Fairford (Horcott)	2·12 ,,	9·2 ,,
,,	Lechlade	2·65 ,,	11·7 ,,
,,	Fairford (Hatherop Rec.)	2·00 ,,	9·6 ,,
,,	Northleach (Yanworth)	1·92 ,,	8·0 ,,
,,	,, (Hampnett Rec.)	2·07 ,,	9·1 ,,

AUGUST 11TH.

A wet period set in on August 9th and gave the max. fall of the year at many stations in the South Western and West Midland Counties and in Wales, but the amounts were not noteworthy.

On the 10th heavy falls were reported from parts of Essex and from the North Midland Counties, and much of the north of England, but it is doubtful if any noteworthy maximum fall really belongs to the 10th—as there are still some observers who continue to enter their observations to the wrong date.

For the 11th there are the two following high values—the first being corroborated by a fall of 1·79 in. at Old Park, Enfield—too small to go in the table, but useful as confirming the other :—

I.	Enfield, Nag's Head Lane	2·55 in. or	10·5 per cent.
IV.	Billericay, Berghstead Lodge	2·18 ,,	9·1 ,,

AUGUST 12TH.

Is it possible that the grouse shooting is responsible for the heavy fall upon this day? The fall was general over the Yorkshire Moors, although in the following table it is only the extreme N. of England and the S. of Scotland which appear :—

IX.	Middlesborough (Albert Park)	2·20 in. or	8·7 per cent.
X.	Durham (Ushaw College)	2·38 ,,	8·4 ,,
,,	Houghton-le-Spring (Myre Hall) ...	2·75 ,,	8·2 ,,
,,	Sunderland, West Hendon Ho.	2·54 ,,	8·8 ,,
,,	Gateshead, Eighton Cottage	2·30 ,,	8·0 ,,
,,	Newcastle, Clifton Road	2·53 ,,	8·8 ,,
,,	,, Portland Road	2·50 ,,	9·5 ,,
,,	,, Phil. Soc.	2·65 ,,	9·1 ,,
,,	,, Town Moor	2·60 ,,	9·2 ,,
,,	N. Shields, Rosella Place	2·21 ,,	8·0 ,,
XII.	St. Boswell's (Elliston).....	2·35 ,,	8·7 ,,
,,	Kelso (Springwood Park).....	3·51 ,,	13·1 ,,
,,	Melrose Asylum *n. g.*	2·25 ,,	8·0 ,,
XIII.	Gorebridge (Middleton)	2·66 ,,	7·1 ,,
,,	Liberton (Alnwick Hill Res.).....	3·51 ,,	10·3 ,,

AUGUST 19TH.

A rather heavy fall chiefly in the Northern extremity of Hampshire, and in the counties immediately to the North of it, the only returns entitled to quotation are :—

III.	Abingdon (Culham).....	2·34 in. or	11·8 per cent.
,,	,, (Nuneham Park)	1·68 ,,	8·2 ,,
,,	Oxford (Potlands, Baldon)	1·62 ,,	8·0 ,,

SEPTEMBER 23RD.

A local thunderstorm giving at the following station exactly the same amount as the great rain of July 17th :

1. Teddington (Gomer House) ..... 2·02 in. or 8·6 per cent.

SEPTEMBER 25TH.

A local heavy fall exceeding two inches at many stations in the Western part of Scotland :—

XV.	Ardgour House	3·20 in. or	5·1	per cent
,,	Loch Eil (Corran)	3·50 ,,	3·4	,,

SEPTEMBER 30TH.

A heavy fall in the English Lake District and in the S.W. of Scotland :—

VIII.	Hawkshead (Grizedale Hall)	2·55 in. or	4·0	per cent.
,,	,, (Esthwaite Lodge)	3·03 ,,	4·5	,,
,,	Duddon Valley (Seathwaite Vic.).....	3·19 ,,	3·8	,,
,,	Monk Coniston Park	3·59 ,,	4·3	,,
,,	Skelwith Fold	3·05 ,,	3·9	,,
,,	Dungeon Ghyll	4·90 ,,	4·3	,,
X.	Ulpha Vic. (Duddon Valley)	2·58 ,,	3·1	,,
,,	Seathwaite	6·79 ,,	4·8	,,
,,	Borrowdale Vic.	5·33 ,,	5·2	,,
,,	Buttermere (Hassness).....	4·30 ,,	4·0	,,
,,	Borrowdale (Grange)	4·38 ,,	5·0	,,
,,	Keswick (Barrow House)	2·83 ,,	4·1	,,
,,	,, (Bank)	2·65 ,,	4·5	,,
,,	,, (,,)	2·55 ,,	4·5	,,
,,	,, (Shu-le-crow).....	2·55 ,,	4·2	,,
,,	Windermere (Woodland Terrace)	2·62 ,,	4·7	,,
,,	Longsleddale	3·00 ,,	4·1	,,
,,	Elterwater	3·89 ,,	4·4	,,
,,	Ambleside (Nook Cottage)	2·81 ,,	3·9	,,
,,	,, (Lesketh Howe)	2·94 ,,	3·9	,,
,,	Grasmere (High Close)	3·60 ,,	4·4	,,
,,	,, (Pavement End)	4·15 ,,	4·7	,,
XV.	Helensburgh (Water Works).....	2·97 ,,	5·8	,,
,,	Buchlyvie (The Manse)	2·95 ,,	5·5	,,

OCTOBER 2ND.

The M., and a heavy one in the Northwest of Scotland, *i.e.* rather to the north of the area visited on September 25th :—

XV.	Loch Eil (Conaglen)	3·68 ,,	3·7	,,
XVIII.	Glencarron Lodge	5·90 ,,	5·4	,,
,,	Lock Torridon (Bendamph)...	3·48 ,,	4·2	,,
,,	Ben Nevis Observatory.....	7·29 ,,	3·7	,,
,,	Lock Shiel (Glenaladale)	3·95 ,,	3·2	,,
,,	Glenquoich	5·64 ,,	4·7	,,
,,	Isle of Sky (Kyleakin).....	3·10 ,,	4·9	,,
,,	Rona.....	3·45 ,,	7·0	,,
,,	N. Uist (Monach)	2·53 ,,	5·4	,,
,,	Harris (Island Glass)	2·70 ,,	5·9	,,

NOVEMBER 6TH.

This M. was general over the N.W. of England, but its centre may perhaps be regarded as having been the Isle of Man, and the area as extending from the N.E. of Ireland to the E. of Scotland :—

X.	Patterdale Hall	2·85 in. or	3·9 per cent.
XI.	Douglas (Cronkbourne)	2·56 ,,	5·7 ,,
,,	,, (Clypse Onchan)	3·17 ,,	6·8 ,,
,,	The Dhoon	3·82 ,,	6·7 ,,
,,	Andreas	2·50 ,,	7·5 ,,
XIV.	Ballantrae (Glendrishaig)	2·55 ,,	5·6 ,,
XV.	Killearn (Old Ballikinrain)	2·60 ,,	4·6 ,,
,,	Islay (Lochindaul)	3·48 ,,	6·0 ,,
XVI.	Coupar Angus Station	2·64 ,,	8·7 ,,
XXIII.	Newcastle (Fairleigh)	3·81 ,,	7·7 ,,
,,	Carrickfergus (South Woodburn)	2·70 ,,	5·9 ,,
,,	,, (North ,,)	2·62 ,,	5·4 ,,

NOVEMBER 22ND.

This M. and that of November 30th resembled those of the early part of January, and like them claim notice only because they occurred in wet districts :

VIII.	Bolton (Belmont)	3·00 in. or	4·8 per cent.
,,	Entwistle	3·20 ,,	5·7 ,,
,,	Haslingden (Holden Wood)	2·64 ,,	5·0 ,,
,,	,, (Calf Hey)	2·59 ,,	4·9 ,,
IX.	Holmbridge (Yateholme)	3·10 ,,	5·5 ,,
,,	Slaidburn (Brennand)	2·75 ,,	3·5 ,,
,,	,, (Whitendale)	3·36 ,,	4·1 ,,
XI.	Rhiwbryfdir (Oakley Quarries)	3·65 ,,	3·8 ,,

NOVEMBER 30TH.

VIII.	Broughton-in-Furness	3·07 in. or	4·5 per cent.
,,	,, (Woodland Rec.)	2·70 ,,	4·4 ,,
,,	Millom (Leyfield)	3·08 ,,	6·1 ,,
X.	Ravenglass (The Grove)	3·10 ,,	6·1 ,,
,,	Whitehaven (Irish Street)	3·55 ,,	7·7 ,,

DECEMBER 5TH.

Although there is only one M. to be quoted for this day, the fall was heavy over the North of Cornwall as well as the South of Devon :—

V. Kingsbridge ..... 2·57 in. or 6·7 per cent.

Abstract.

The two great falls described in the previous "Chronicle," those of July 17th and at the end of September and the beginning of October, have between them made 1890 the year most noteworthy for the quarter of a century, during which "abstracts" like this have been prepared.

Many persons think it unreasonable to insist upon rain gauges being able to hold, as Rule XVI. stipulates, six inches of rain. The gauges which overflowed have already been referred to, but in Table I. we have the records of the sixteen largest recorded totals, and they are unprecedentedly large; all but one are above four inches, seven are five inches or above, while Seathwaite had 6·79 inches and Ben Nevis 7·29 in., probably the largest daily total ever recorded in the British Isles.

The very exceptional amounts in Table I. are distinctly brought out by the analysis in Table II. It shows that as a rule the sixteen falls selected as the greatest, average 3½ inches; in 1890 they averaged just over 5 inches, or ½ an inch more than in any of the previous 25 years. And as with the mean of the sixteen, so with the greatest. Hitherto Seathwaite had been at the top, with 6·78 in. in one day in 1884; Seathwaite had 6·79 in. in 1890, but Ben Nevis Observatory goes ½ an inch higher still, and reports 7·29 in.

Heavy falls, as a a rule, are due to steady rains in wet localities, and therefore, though the amounts are large, those amounts are not a large proportion of the yearly total. Therefore, a year with very heavy falls, is not necessarily (nor perhaps generally) one with high per centages. But the July 17th rainfall was so heavy that it has made Table III. as remarkable as Table I. The percentages are not merely more than 50 per cent. above the average, but they are more than 10 per cent. above the highest average in the last quarter of a century. The group of sixteen records in Table III. has no precedent; for example, the *lowest* in 1890, 13 per cent. is greater than the *highest* usually is, and the *highest* in 1890, 17·2 per cent. is nearly half as large again as the absolute maximum per centage usually is, but it is not unprecedented, for in 1867 17·7 per cent. fell at Hartlip, near Sittingbourne.

In Table V. so large a number of records (2,081) is utilized, that the effects of these local rains are less marked, but even there the mean per centage is very high; it has only twice been equalled and only once exceeded, and then by only one-tenth per cent; 1890 gives 5·0, 1875 also gave 5·0, and 1865 5·1; all other years have been less.

TABLE I.—*Maximum Falls in* 1890.

Date.	Div.	Station.	Depth.	Per Cent.	Fall in year.
Oct. 2 ...	XVIII.	Ben Nevis Observatory	7·29in.	3·7	198·34 in.
Sept. 30 ...	X.	Seathwaite	6·79 ,,	4·8	141·80 ,,
Oct. 2 ...	XVIII.	Glencarron Lodge	5·90 ,,	5·4	109·78 ,,
,, ,, ..	,,	Glenquoich	5·64 ,,	4·7	120·61 ,,
Sep. 30 ...	X.	Borrowdale Vic.	5·33 ,,	5·2	103·07 ,,
May 25 ...	V.	Tiverton, Broomhill	5·20 ,,	13·4	38·91 ,,
July 9 ..	XIX.	Sanda, Start Point	5·00 ,,	15·4	32·50 ,,
Sep. 30 ...	VIII.	Dungeon Ghyll	4·90 ,,	4·3	112·92 ,,
May 25 ...	V.	Tiverton, Ivy Place, S Peter's St	4·85 ,,	13·3	36·56 ,,
Sep. 30 ...	X.	Borrowdale, Grange	4·38 ,,	5·0	86·82 ,,
,, ,, ...	,,	Buttermere, Hassness	4·30 ,,	4·0	106·74 ,,
Mar. 26 ...	XI.	Blaenau Ffestiniog	4·25 ,,	4·2	101·17 ,,
July 17 ...	III.	Rickmansworth, Moor Park.	4·19 ,,	15·2	27·68 ,,
Sep. 30 ...	X.	Grasmere, Pavement End ...	4·15 ,,	4·7	87·89 ,,
May 22 ...	,,	Wythburn Vicarage	4·02 ,,	4·2	95·15 ,,
Oct. 2 ...	XVIII.	Loch Shiel, Glenaladale	3·95 ,,	3·2	121·79 ,,

TABLE II.—*Comparison of Maximum Falls with those in previous years.*

	MEAN.			ABSOLUTE.			
Years.	Depth.	Per Cent.	Mean total fall at these stations.	Depth.	Per Cent.	Station.	Division.
	in.		in.	in.			
1865 ...	3·67	6·4	61·8	6·41	5·5	Seathwaite.....	X.
1866 ...	3·40	—4·4	86·2	6·38	3·6	Seathwaite.....	,,
1867 ...	3·17	9·0	—42·5	4·78	+17·7	Hartlip	II.
1868 ...	3·32	6·1	65·9	5·60	4·8	Camusinas.....	XV.
1869 ...	3·68	5·0	77·7	6·70	4·5	Seathwaite.....	X.
1870 ...	3·20	7·5	43·8	6·00	17·1	Tongue	XIX.
1871 ...	3·08	5·7	61·6	4·24	9·6	Melbury.....	V.
1872 ...	4·10	6·6	73·1	5·82	3·2	Seathwaite.....	X.
1873 ...	2·97	6·2	60·7	4·20	—2·9	Seathwaite.....	,,
1874 ...	3·96	4·6	86·5	5·32	4·4	Bryn Gwynant	XI.
1875 ...	4·52	7·8	63·9	5·33	9·7	Newport W. W.	,,
1876 ...	3·37	5·9	57·6	4·50	5·5	Foffany	XXIII.
1877 ...	3·77	4·6	93·4	4·98	5·3	Skye, Portree..	XVIII.
1878 ...	3·57	7·4	57·2	4·24	8·6	Springfield ...	XI.
1879 ...	3·66	+9·5	50·4	—4·05	4·1	Little Langdale	X.
1880 ...	3·50	7·7	51·1	4·75	3·9	Seathwaite.....	,,
1881 ...	3·65	4·9	83·1	5·42	4·7	Sligachan	XVIII.
1882 ...	3·28	4·5	84·3	4·51	3·0	Seathwaite ...	X.
1883 ...	3·69	6·1	72·4	5·27	9·0	Glenesmoel ...	XXI.
1884 ...	3·45	4·7	80·7	6·78	5·0	Seathwaite ...	X.
1885 ...	3·45	5·8	68·2	4·62	3·2	Seathwaite ...	,,
1886 ...	3·77	7·7	58·7	4·20	9·9	Little Bredy ...	V.
1887 ...	—2·83	6·1	56·8	4·93	13·0	Galway	XXII.
1888 ...	4·20	5·9	77·0	5·20	5·4	Wythburn Vic.	X.
1889 ...	3·89	9·9	49·2	4·45	16·5	N. Ockendon..	IV.
Mean ...	3·57	6·4	66·6	5·14	7·2	.....	...
1890 ...	+5·01	6·9	+95·1	+7·29	3·7	Ben Nevis	XVIII.
Diff. ...	+1·44	+ ·5	+28·5	+2·15	—3·5	.....	...

TABLE III.—*Maximum Per Centages in* 1890.

Date.	Div.	Station.	Per Cent.	Depth.	Fall in year.
July 17 ...	III.	Slough, Langley	17·2	3·68 in.	21·39 in.
,, ,, ...	I.	Staines, Knowle Green	16·3	+3·20,,	19·67 ,,
,, ,, ...	III.	Taplow Court	16·0	3·45 ,,	21·48 ,,
,, 9 ...	XIX.	Sanda, Start Point	15·4	5·00 ,,	32·50 ,,
,, 17 ...	II.	Cookham Vicarage	15·4	3·37 ,,	21·83 ,,
,, ,, ...	III.	Rickmansworth, Moor Park.	15·2	4·19 ,,	27·68 ,,
,, ,, ...	II.	Egham, Cooper's Hill.....	14·3	3·33 ,,	23·32 ,,
,, ,, ...	III.	Slough, Upton Park	14·1	2·75 ,,	19·49 ,,
,, ,, ...	V.	Highworth, Hannington ...	13·7	3·28 ,,	23·93 ,,
,, ,, ...	II.	Reading, East Thorpe.....	13·5	3·10 ,,	23·06 ,,
,, ,, ...	I.	Sunbury, Hanworth Road ...	13·5	2·94 ,,	21·85 ,,
May 25 ...	V.	Tiverton, Broomhill	13·4	5·20 ,,	38·91 ,,
,, ,, ...	,,	,, IvyPlace, SPeter'sSt	13·3	4·85 ,,	36·56 ,,
July 17 ...	II.	Maidenhead, Lowood	13·3	2·94 ,,	22·18 ,,
Aug. 12 ...	XII.	Kelso, Springwood Park.....	13·1	3·51 ,,	26·80 ,,
July 17 ...	II.	Reading, Forbury Gardens...	13·0	2·83 ,,	21·73 ,,

TABLE IV.—*Comparison of Maximum Per Centages with those in previous years.*

	MEAN.			ABSOLUTE.			
Years.	Per Cent.	Depth.	Mean total fall at these Stations.	Per Cent.	Depth.	Station.	Division.
		in.	in.		in.		
1865 ..	9·9	2·62	28·4	13·0	4·40	Fleckney.....	VII.
1866 ...	8·1	2·31	29·3	10·0	—2·48	Burton	VI.
1867 ...	11·0	2·85	25·3	+17·7	4·78	Hartlip	II.
1868 ...	8·6	2·55	30·1	11·0	4·00	Tongue	XIX.
1869 ...	7·9	2·17	27·9	10·0	3·40	Tillydesk	XVII.
1870 ...	10·0	2·34	22·9	17·1	+6·00	Tongue	XIX.
1871 ...	9·0	2·43	26·8	11·5	3·62	Warter	IX.
1872 ...	8·1	3·43	+42·5	10·0	3·70	Hillington Hall	IV.
1873 ...	9·7	2·39	24·7	11·8	2·77	Oscott	VI.
1874 ...	9·2	2·16	23·7	11·9	2·50	Welwyn.. [Hall	III.
1875 ...	10·2	+3·76	37·5	13·2	3·95	Letheringsett ...	IV.
1876 ...	— 7·4	2·49	33·7	— 8·5	3·70	Cragside	X.
1877 ...	8·2	2·73	33·1	9·3	3·09	Wellington.....	VI.
1878 ...	10·2	3·05	30·0	11·8	3·90	Haverstock Hill	I.
1879 ...	10·9	3·31	30·5	12·3	3·80	CambridgeM.V.	III.
1880 ...	9·5	3·06	32·3	11·7	3·34	Marmont Pr. L.	,,
1881 ...	8·1	2·42	30·3	10·6	3·20	Aboyne Castle..	XVII.
1882 ...	7·7	2·54	33·4	9·1	2·80	Bothalhaugh ...	X.
1883 ...	9·7	3·00	31·1	12·3	4·31	Skegness.....	VII.
1884 ...	11·7	2·33	—20·0	13·8	2·66	Diss(Thelveton)	IV.
1885 ...	8·9	2·71	30·7	9·6	2·62	Beccles, Ellough	,,
1886 ...	10·1	3·32	32·7	11·5	4·10	Methley Park...	IX.
1887 ...	9·5	—2·11	21·9	13·0	4·93	Galway	XXII.
1888 ...	10·9	3·05	28·3	11·8	3·24	Rothamstead ...	III.
1889 ...	12·7	3·51	27·8	16·5	4·45	N. Ockendon...	IV.
Mean...	9·5	2·75	29·4	12·0	3·67	.....	...
1890 ...	+14·4	3·60	25·1	17·2	3·68	Slough Langley	III.
Diff. ...	+ 4·9	+ ·85	— 4·3	+ 5·2	+ ·01	.....	...

TABLE V.—*Comparison of the Mean of all the Maximum Falls of* 1890 *with similar data for previous years.*

Years.	Number of Returns.	Mean Percentage.	Mean Amount.	Mean Total Fall in year.	Ratio taking 34=100.	Total Fall being assumed =34in. Mean Max. =
			in.	in.		
1865.....	481	+ 5·1	1·70	33	97	5·0 per cent
1866.....	590	3·7	1·48	40	118	4·4 ,,
1867.....	584	4·6	1·44	31	91	4·2 ,,
1868.....	676	4·3	1·43	33	97	4·2 ,,
1869.....	637	4·2	1·42	34	100	4·2 ,,
1870.....	687	4·9	1·30	27	79	3·8 ,,
1871.....	752	4·9	1·49	30	88	4·4 ,,
1872.....	743	— 3·4	1·59	+ 47	+ 138	4·7 ,,
1873.....	809	4·6	1·35	29	85	4·0 ,,
1874.....	1010	4·4	1·41	32	94	4·1 ,,
1875.....	1081	5·0	+1·83	37	109	+5·4 ,,
1876.. ...	1112	3·9	1·49	38	112	4·4 ,,
1877.....	1180	3·8	1·56	41	121	4·6 ,,
1878.....	1186	4·3	1·49	35	103	4·4 ,,
1879.....	978	4·2	1·52	36	106	4·5 ,,
1880.....	1117	4·8	1·72	36	106	5·1 ,,
1881.....	1194	4·1	1·45	35	103	4·3 ,,
1882.....	1463	3·6	1·42	39	115	4·2 ,,
1883.....	1505	4·0	1·41	35	103	4·1 ,,
1884.....	1691	4·8	1·32	28	82	3·9 ,,
1885.....	1801	4·5	1·41	31	91	4·2 ,,
1886.....	1718	4·6	1·64	35	103	4·8 ,,
1887.....	1921	4·5	—1·14	— 25	— 74	—3·4 ,,
1888.....	1974	4·4	1·41	32	94	4·1 ,,
1889.....	1812	4·8	1·41	29	85	4·1 ,,
Mean ...	1148	4·4	1·47	34	100	4·3 ,,
1890.....	2081	5·0	1·46	29	85	4·3 ,,
Diff.....	+933	+ ·6	— ·01	— 5	— 15	·0 ,,

DROUGHTS IN 1890.

THIS section is remarkably short considering that 1890 was a dry year. There have, in fact, been so few droughts that instead of printing the names of all the 50 typical stations as given last year and printing the word "None" opposite nearly all of them, we give only those at which droughts occurred. This sweeps away thirty-eight stations out of the fifty, and brings the facts out more clearly.

It will, of course, be understood that we adhere to the definitions adopted in 1887, viz, :—

ABSOLUTE DROUGHTS.—Periods of *more than* 14 consecutive days absolutely without R.

PARTIAL DROUGHTS.—Periods of *more than* 28 consecutive days, the aggregate rainfall of which does not exceed 0·01 in. per diem.

We have used the same stations as set out last year, except that absentees have been replaced by stations close to them.

Inspection of the following short table will show that there were three absolute droughts; (1) in the early part of February at only one station; (2) from the end of August to the middle of September at seven stations; (3) in the early part of December at five stations. There were also two partial droughts; (1) in February and March at one station; (2) in December at two stations.

The povery of the list is sufficiently proved by the following table, which gives strictly comparable data for 1888, 1889 and 1890:—

ABSOLUTE DROUGHTS.

	No. of stations.	Number.	Duration. Average.	Greatest.	Stations without one.
1888	50	17	17 days	20 days	35
1889	50	42	21 ,,	30 ,,	13
1890	50	13	18 ,,	20 ,,	39

PARTIAL DROUGHTS.

	No. of stations.	Number.	Duration. Average.	Greatest.	Stations without one.
1888	50	4	42 days	50 days	46
1889	50	38	34 ,,	45 ,,	15
1800	50	3	30 ,,	31 ,,	47

STATION & COUNTY.	ABSOLUTE DROUGHTS.			PARTIAL DROUGHTS.			
	Began.	Ended.	Lasted.	Began.	Ended.	Lasted.	Amount.
							in.
London (Camden Square), N.W.. *Middlesex.*	Aug. 28	Sept. 16	20	None			
Welwyn (Datchworth Rectory).. *Herts.*	Aug. 29	Sept. 16	19	None			
Calne (High Street) ..... *Wilts.*	Aug. 30 Dec. 6	Sept. 16 Dec. 22	18 17	None			
St. Austell (Trevarna) .... *Cornwall.*	Aug. 30	Sept. 16	18	None			
Ilminster (White Lackington) ... *Somerset.*	Jan. 29 Aug. 31	Feb. 12 Sept. 16	15 17	None			
Ross (The Graig) .... *Hereford.*	None			Feb. 20	Mar. 22	31	·31
Penrith, Blencowe School ..... *Cumberland*	Dec. 5	Dec. 21	17	None			
Chepstow (Shirenewton Hall) .. *Monmouth*	Sept. 1	Sept. 16	16	None			
Halkyn .... *Flint.*	Dec. 5	Dec. 21	17	None			
Cargen [Dumfries] ..... *Kirkcudbright.*	Dec. 3	Dec. 21	19	Dec. 3	Dec. 31	29	·21
Old Cumnock ... . *Ayr.*	Dec. 5	Dec. 20	16	Dec. 3	Dec. 31	29	·27
Portlaw (Mayfield) ..... *Waterford.*	Aug. 28	Sept. 15	19	None			

MONTHLY RAINFALL OF 1890.

We give, as usual, information on this subject in many forms.

In the *Meteorological Magazine* we give monthly abstracts of records from 150 stations, and for about 40 of them the difference between the fall in each month, and the average for the same month during the previous decade.

In the Observers' Notes on the Months (see pages [35] to [69]) we have given the general history of the weather; in the following tables (pages [118] to [124]) we give the monthly rainfall at each of about 230 stations, indicating the wettest month by + and the driest by −, and in the two sheets of maps inserted between pages [126] and [127] we show in which part of the country the fall was near the average, and in which it was an inch or more above or below it.

These maps are similar to those given in previous years, and are based upon the following data:—A map was prepared showing the stations of which the records date back to 1880 and are still being continued; 48 stations were then chosen as widely distributed as possible; for each of them the mean rainfall was determined for each month, from the observations made during the decade, 1880–89. Then a table was constructed, showing for each station whether the fall in each month in 1890 was within an inch of the average, or more than an inch above or below it. Upon the map for each month were then placed marks over the site of each station, indicative of the relation of the fall in that month to the average. The symbols adopted were:—

A round dot when within an inch of the average.

A + when more than an inch above it.

And a — when more than an inch below it.

Lastly, we give on pages [125] to [127] a brief history of the distribution of the fall of rain over the British Isles in each month, and remarks on such monthly totals as have been exceptional.

MONTHLY RAINFALL AT 233 STATIONS IN THE BRITISH ISLES DURING 1890.

ENGLAND.

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec	Total.
I.	Middlesex	London (Camden Sq.)	2·46	1·04	1·76	2·02	1·25	2·82	+4·19	1·55	— ·64	1·20	1·62	·68	21·23
,,	,,	Pinner Hill	2·45	·61	1·67	1·17	1·08	2·49	*+4·70*	2·09	·72	1·12	1·95	— ·51	*20·56*
II.	Surrey	Guildford (Guildown)	2·83	1·12	1·95	2·84	1·55	2·85	+3·85	2·62	1·31	1·19	2·49	— ·75	25·35
,,	Kent	Tenterden	2·54	1·10	2·52	2·71	1·54	2·37	2·52	+3·79	1·22	1·20	3·15	— ·79	25·45
,,	,,	Hythe	2·53	1·28	2·97	2·71	1·12	2·74	3·03	3·52	·92	1·52	+3·62	— ·62	26·58
,,	,,	Sevenoaks (River Hill)	2·94	·92	2·61	2·60	1·87	3·50	+3·97	3·52	·98	1·35	2·45	— ·52	27·23
,,	,,	Ospringe (Lorenden)	2·36	— ·72	1·90	2·59	1·42	1·37	+3·91	3·76	1·22	·92	2·73	·79	23·69
,,	Sussex	Worthing (Heene)	2·66	1·23	1·28	2·54	1·41	2·25	+3·17	2·69	1·29	1·40	2·39	— ·53	22·84
,,	,,	Maresfield (Forest Lodge)	3·25	1·45	2·49	2·74	1·97	2·94	3·65	3·64	1·07	1·65	+3·74	— ·63	29·22
,,	Hants	I. of Wight (Sandown)	2·68	1·11	1·31	2·80	2·58	1·69	+3·73	3·34	— ·87	1·24	3·35	·98	25·68
,,	,,	Bps. Waltham (Swanmore)	3·92	— ·50	1·02	2·18	2·54	4·15	3·37	+4·33	·87	1·44	1·98	·87	27·17
,,	,,	Basingstoke (Sherborne)	3·31	·94	1·16	2·25	2·22	2·40	+4·24	2·42	— ·69	1·31	2·10	·98	24·02
,,	Berks	Newbury (Welford)	3·32	— ·89	1·27	1·73	1·93	1·87	+3·78	2·82	1·72	1·17	1·93	·95	23·38
III.	Herts	Hertford (Bayfordbury)	2·38	·80	2·11	·87	1·50	2·04	+3·49	1·92	·59	1·38	2·41	— ·55	20·04
,,	,,	Royston	1·80	·80	2·38	·63	1·84	1·84	+3·83	1·42	— ·17	1·67	1·75	·55	18·68
,,	Bucks	Greenlands[Henley-on-Thames]	3·12	— ·21	1·80	2·06	1·57	2·80	*+4·84*	2·02	1·08	1·57	2·79	·37	*24·23*
,,	,,	Buckingham (Adstock)	2·30	— ·80	1·44	1·05	1·95	1·86	+4·70	2·17	1·15	1·31	2·00	1·29	22·02
,,	Oxford	Oxford (Magdalen Coll.)	1·86	·71	·72	1·03	1·75	1·51	+2·96	2·26	1·02	1·14	1·51	— ·55	17·02
,,	Northampton	Wellingborough(Swanspool)	1·95	·80	2·12	·71	1·73	2·05	2·39	1·31	·72	1·15	+2·74	— ·56	18·23
,,	Bedford	Bedford	1·80	·68	1·93	·73	1·48	1·58	+2·55	1·93	— ·53	1·44	1·83	·70	17·18
,,	Cambridge	Ely (Stretham)	2·34	·80	2·08	·94	+2·91	2·48	2·32	1·52	— ·20	1·72	1·76	·37	19·44
,,	,,	Wisbech	2·15	·66	2·34	·50	2·30	2·45	2·56	2·07	— ·39	1·07	+2·58	·44	19·51
IV.	Essex	Loughton (High Beech)	2·45	1·01	1·52	1·36	1·78	3·87	+5·02	3·87	·65	1·52	2·46	— ·46	25·97
,,	,,	Chelmsford (High Street)	2·01	1·12	2·16	1·11	1·83	2·36	+4·05	2·62	— ·62	1·15	2·02	·83	21·88
,,	,,	Braintree (Bocking Place)	2·12	1·09	3·26	1·42	1·84	2·21	+5·71	3·09	·86	1·27	2·20	— ·38	25·45
,,	Suffolk	Ipswich (Bishop's Hill)	1·86	·98	2·49	·92	1·68	1·94	+3·62	2·46	·91	1·42	2·83	— ·58	21·69
,,	,,	Haverhill (Great Thurlow)	1·75	·81	2·91	·90	2·05	2·12	+3·92	1·62	— ·52	1·79	2·02	·65	21·06
,,	,,	Framlingham (Mount Pleasant)	1·99	·97	2·28	·82	2·23	2·51	3·04	2·54	1·21	1·62	+3·07	— ·58	22·86
,,	Norfolk	Geldeston [Beccles]	1·95	·73	2·39	1·15	1·52	2·33	3·42	2·21	·85	1·65	+4·02	— ·51	22·73
,,	,,	Swaffham Grammar School	2·59	·68	2·52	·60	2·03	+4·25	4·11	2·63	·58	1·89	3·42	— ·48	25·78
,,	,,	Holt (Lethringsett Hall)	2·32	·98	2·91	·75	1·22	2·81	+3·59	1·79	·59	1·58	3·31	— ·47	22·32

ENGLAND—(*continued.*)

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August	Sept.	Oct.	Nov.	Dec.	Total.
V.	Wilts	Salisbury (Alderbury)	+4·07	·73	1·21	2·65	2·28	3·15	3·60	2·62	1·61	— ·56	1·76	1·01	25·25
,,	,,	Trowbridge(SteepleAshton)	2·85	— ·73	1·37	1·90	2·19	+3·66	3·55	2·38	1·34	1·16	1·84	1·68	24·65
,,	,,	Marlborough Mildenhall	3·06	— ·79	1·03	1·38	1·68	2·73	+4·55	2·42	1·45	1·10	2·07	·89	23·15
,,	Dorset	Abbotsbury	+4·18	1·24	1·20	2·84	1·82	2·18	3·30	2·06	2·02	—1·05	2·80	2·33	27·02
,,	,,	Wimborne (Chalbury)	+3·47	— ·67	1·39	2·97	2·38	2·85	2·90	2·69	2·49	·84	2·08	1·29	26·02
,,	,,	Shaftesbury	3·11	—1·03	1·62	+4·36	2·11	3·05	3·75	3·25	1·99	1·74	2·20	1·82	30·03
,,	Devon	Brixham (Lupton)	5·53	1·31	1·10	3·19	2·15	2·09	3·02	3·21	·85	— ·51	3·32	+6·50	32·78
,,	,,	Walkhampton(Lowery)(5in.)	+7·67	—1·66	3·24	3·37	1·99	6·42	7·44	4·75	1·85	3·29	7·19	4·39	53·26
,,	,,	Ilsington (Middlecott Ho.)	+7·89	1·78	2·24	3·44	2·74	3·24	2·89	3·71	—1·60	1·72	5·40	4·74	41·39
,,	,,	Cullompton	+4·53	1·41	1·70	3·76	2·57	2·84	2·95	3·40	— ·99	1·60	3·45	2·16	31·36
,,	,,	South Molton (Rose Ash)	5·04	— ·92	2·06	3·52	3·04	3·02	4·72	4·13	1·29	3·23	+5·26	1·78	38·01
,,	Cornwall	Penzance (Penlee)	6·43	1·89	—1·79	3·72	+7·18	3·71	5·15	3·58	2·04	2·32	5·68	4·88	48·37
,,	,,	St. Agnes	+5·40	1·70	—1·31	2·78	5·23	3·30	4·40	3·06	2·03	1·92	4·43	4·06	39·62
,,	,,	Bude	4·08	— ·88	1·01	3·30	2·82	2·12	3·34	3·99	1·53	2·29	+4·67	3·05	33·08
,,	Somerset	Ilminster (White Lackington)	+4·59	1·61	1·34	3·35	1·60	2·36	4·56	2·46	1·58	—1·25	2·68	2·12	29·50
,,	,,	Glastonbury (Street)	2·62	— ·75	1·35	2·61	1·40	2·89	+5·54	2·70	1·81	1·55	1·77	1·84	26·83
,,	,,	Exford Rectory	+8·26	1·61	2·51	4·48	2·93	3·12	4·97	4·58	—1·41	3·15	6·09	2·24	45·35
VI.	Gloucester	Clifton (South Parade)	+3·90	— ·58	1·11	1·14	1·87	3·02	3·41	2·93	1·43	1·67	2·55	1·30	24·91
,,	,,	Stroud (Upfield)	+3·19	— ·68	·94	·97	2·06	2·83	2·84	2·82	1·03	1·37	2·10	1·08	21·91
,,	,,	Fairford (Hatherop Rec)	2·75	— ·36	·95	1·08	1·28	3·02	+3·99	1·84	1·29	1·43	2·03	·75	20·77
,,	Hereford	Ross (The Graig)	+3·61	— ·68	·91	1·01	2·12	1·88	3·33	2·92	1·62	1·25	2·05	1·15	22·53
,,	Salop	Ch. Stretton (Woolstaston)	4·66	·84	1·49	1·02	2·76	1·57	2·10	4·16	— ·78	2·12	+4·96	·81	27·27
,,	,,	MuchWenlock(WilleyPk.)	3·15	— ·86	1·57	·94	2·20	1·59	2·56	3·09	1·19	2·06	+4·12	1·00	24·33
,,	,,	Oswestry (Hengoed)	+6·29	— ·62	1·12	1·21	2·61	2·32	2·32	3·74	1·28	1·50	5·16	1·15	29·32
,,	Stafford	Lichfield Museum	3·28	— ·68	1·69	1·12	2·72	1·87	2·29	3·35	1·00	1·67	+4·40	·77	24·84
,,	,,	Burton (Shobnall)	2·24	— ·56	·96	·91	2·10	1·60	2·02	2·37	·83	1·45	+3·03	·63	18·70
,,	,,	Etruria	3·61	— ·38	2·04	1·02	1·95	2·19	3·11	4·57	·87	2·50	+5·52	·85	28·61
,,	Worcester	Blockley	+3·15	— ·75	·98	1·18	2·31	2·38	3·00	1·91	1·10	1·35	2·45	·99	21·55
,,	,,	Malvern (Hornyold Rd.)	+3·38	·65	— ·58	1·48	2·26	1·65	2·40	2·74	1·01	1·71	2·60	1·26	21·72
,,	,,	Tenbury (Orleton)	+3·38	— ·74	1·57	1·51	2·22	1·93	2·50	2·79	1·09	1·33	2·95	1·32	23·33
,,	,,	Stourbridge (Pedmore)	3·13	— ·63	1·49	·77	1·84	1·88	1·80	3·13	1·09	1·76	+3·34	·93	21·79
,,	Warwick	Leamington(UpperParade)	2·28	— ·58	1·14	·84	2·04	1·40	2·12	1·67	1·01	1·17	+2·37	·66	17·28
,,	,,	Bedworth Cemetery	2·74	— ·62	1·57	1·04	2·29	1·49	2·15	3·08	1·38	1·53	+3·14	·66	21·69
VII.	Leicester	Loughborough (Cedar Cott.)	2·46	·81	1·58	·98	2·44	2·22	2·55	2·49	1·68	1·71	+3·81	-- ·63	23·36
,,	,,	Bottesford	2·11	·70	1·44	— ·31	2·18	1·13	2·23	+2·47	·96	·85	2·27	·57	17·22

ENGLAND—(*continued.*)

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
VII.	Rutland	Market Overton	2·60	1·19	2·21	— ·75	2·44	1·57	1·99	2·26	·90	1·18	+ 4·47	·87	22·43
,,	Lincoln	Horncastle (Queen Street).	2·10	·81	1·64	— ·28	1·94	1·72	1·96	1·88	·36	1·18	+ 2·90	·38	17·15
,,	,,	Brigg (Appleby Vic.)	2·05	·89	1·67	— ·60	2·97	2·11	1·74	2·39	1·26	1·10	+ 3·18	·63	20·59
,,	Notts	Ollerton(ThoresbyGardens)	2·59	1·16	1·97	— ·50	3·05	1·40	2·85	3·21	1·44	1·39	+ 3·22	— ·50	23·28
,,	Derby	Buxton	6·91	— ·95	4·99	1·64	3·21	4·68	4·78	6·05	1·41	4·28	+ 9·45	1·30	49·65
VIII.	Cheshire	Congleton(BuglawtonVic.)	2·94	·54	2·36	1·13	1·76	3·38	4·13	4·61	·92	2·39	+ 6·28	— ·48	30·92
,,	Lancashire	Manchester (Withington).	3·15	·48	2·63	·58	2·11	3·30	2·79	3·78	·84	2·06	+ 4·41	— ·37	26·50
,,	,,	Ormskirk (Rufford)	3·94	— ·57	2·31	1·43	2·22	2·27	2·69	4·26	2·80	2·16	+ 6·21	·58	31·44
,,	,,	Burnley (Swinden, Lower)	6·17	·96	3·85	1·26	2·67	4·33	3·20	6·25	3·14	3·10	+ 8·27	— ·83	44·03
,,	,,	St. Michael's-on-Wyre	4·63	·65	3·19	1·21	2·24	3·81	3·05	+5·96	3·49	2·75	5·91	— ·57	37·46
,,	,,	Grange (Nutwood)	6·31	·77	4·71	1·81	3·10	3·46	3·98	5·31	5·03	2·94	+ 6·61	— ·56	44·59
IX.	York, W.R.	Rotherham (Moorgate Grove,	2·68	·93	1·70	·73	2·88	1·93	2·25	2·78	1·42	1·10	+ 4·05	— ·64	23·09
,,	,,	Huddersfield (Dalton)	4·46	1·02	2·28	1·23	2·96	2·19	2·15	+4·54	1·26	1·50	3·78	— ·80	28·17
,,	,,	Leeds (Methley Park)	2·87	— ·72	1·74	1·12	2·84	1·88	2·81	+2·99	1·76	·82	2·17	·73	22·45
,,	,,	Malham Tarn	8·68	1·07	6·63	2·28	3·86	5·98	5·22	8·35	5·16	6·14	+10·25	— ·94	64·56
,,	,,	Ripon (Mickley)	4·77	·98	2·47	1·01	2·52	2·39	1·17	+5·12	2·12	·74	3·80	— ·58	27·67
,,	York, E.R.	Patrington	2·03	·85	1·22	— ·51	2·39	2·32	1·69	3·00	·75	1·34	+ 3·68	·94	20·72
,,	,,	Brantinghamthorpe	3·04	1·56	1·62	— ·91	3·01	1·97	2·46	+4·26	1·44	1·88	3·60	1·17	26·92
,,	,,	Pocklington (Warter)	2·42	1·57	1·75	1·17	2·66	2·53	1·91	3·93	1·51	1·86	+ 4·07	—1·00	26·38
,,	York, N.R.	Malton	2·15	1·25	1·16	— ·76	2·09	1·86	1·92	+4·31	1·67	1·53	3·59	·78	23·07
,,	,,	Thirsk (Sowerby)	2·45	·84	1·79	— ·82	2·19	2·68	2·13	+4·05	2·43	1·15	3·42	·94	24·89
,,	,,	Robin Hood's Bay	1·50	1·94	1·34	1·41	2·72	1·47	3·63	3·71	— ·41	2·26	+ 4·00	2·87	27·26
,,	,,	Lockwood Beck	2·32	2·56	3·05	—1·15	3·12	3·46	2·68	4·48	2·32	3·17	+ 4·92	2·45	35·68
X.	Durham	Darlington (South End)	2·21	1·13	1·70	— ·95	2·08	2·32	2·01	+4·41	2·09	1·39	3·61	1·40	25·30
,,	,,	Hartlepool(HurworthBurn)	2·01	1·42	1·38	— ·84	1·34	1·82	2·15	2·23	2·31	2·76	+ 4·96	2·40	25·62
,,	,,	Wolsingham	4·02	—1·52	2·71	1·68	2·19	2·95	1·89	4·74	1·59	1·83	+ 4·75	2·46	32·33
,,	Northumberland	Haltwhistle(UnthankHall)	3·80	1·26	3·02	1·35	1·63	4·27	2·14	+6·54	2·46	2·25	5·01	— ·70	34·43
,,	,,	Morpeth (Meldon Park)	2·91	1·55	2·12	— ·82	2·21	3·65	1·75	+5·74	2·04	1·90	3·86	1·87	30·42
,,	,,	Alwinton (Biddleston)	2·89	1·93	2·04	—1·04	2·06	2·98	1·89	+6·27	1·74	2·43	4·89	2·93	33·09
,,	,,	Howick Hall	1·82	1·40	2·38	— ·53	1·99	3·03	2·02	+5·82	3·02	2·13	3·92	1·46	29·52
,,	Cumberland	Borrowdale (Seathwaite)	21·80	3·74	12·73	4·55	7·96	13·59	13·43	9·79	15·88	11·64	+25·48	—1·21	141·80
,,	,,	Brampton (Denton House)	3·91	·97	2·51	1·47	1·71	4·12	2·66	4·88	3·46	2·36	+ 5·52	— ·59	34·16
,,	Westmoreland	Kendal (Kent Terrace)	+9·00	·86	5·10	1·74	2·75	4·01	4·46	5·16	4·82	3·25	6·47	— ·51	48·13
,,	,,	Kirkby Stephen	+7·93	·90	3·02	1·39	2·37	3·09	2·25	4·89	3·06	1·92	6·19	— ·76	37·77
,,	,,	Lowther Castle	+7·79	— ·48	2·94	2·35	2·87	2·71	2·02	3·75	1·69	3·22	6·53	·50	36·85

MONMOUTH, WALES AND THE ISLANDS.

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
XI.	Monmouth.....	Chepstow (Shirenewton Hall)	+ 5·46	— ·66	1·18	1·57	2·33	2·45	3·79	4·25	1·53	1·29	3·37	1·46	29·34
,,	,, ...	Abergavenny.....	+ 5·66	1·36	1·82	— ·84	2·78	2·40	2·31	2·78	1·57	1·10	3·48	1·70	27·80
,,	Glamorgan.....	Cardiff Castle	+ 5·27	— ·53	1·40	1·66	1·97	2·44	3·51	3·79	1·40	1·74	4·00	1·00	28·71
,,	,, ...	Ystalyfera (Tan-yr-allt) ...	+11·00	—1·60	3·89	2·21	2·90	4·94	7·19	4·65	2·35	5·12	7·32	—1·60	54·77
,,	Carmarthen	Carmarthen Asylum	7·00	—1·19	2·59	1·85	3·65	3·88	4·63	3·33	2·21	3·98	+ 7·29	1·75	43·35
,,	,, ...	Llandovery	+ 7·99	1·06	3·82	2·07	2·08	4·12	4·57	4·77	2·36	4·80	7·30	—1·01	45·95
,,	Pembroke	Stackpole Court	4·36	— ·98	1·81	1·62	3·33	3·19	2·99	3·40	2·11	2·88	+ 5·06	4·18	35·91
,,	Cardigan	Troedyraur Rectory..... ...	5·59	—1·12	2·13	1·31	2·94	2·80	3·44	2·99	2·11	5·20	+ 6·62	1·47	37·72
,,	,, ...	Aberystwith (Cwmsymlog)	7·49	— ·68	4·89	2·19	1·74	7·63	5·81	5·57	2·89	6·51	+11·08	·86	57·34
,,	Brecknock.....	Brecknock (Cantreff Rec.)	+10·59	1·70	3·06	1·58	3·31	2·25	1·91	4·97	2·33	2·25	6·23	— ·98	41·16
,,	,, ...	Newbridge (Llysdinam) ...	+ 5·37	— ·56	2·30	·89	1·89	1·77	1·88	4·79	1·84	2·55	5·01	1·23	30·08
,,	Radnor	Rhayader (Nantgwillt) ...	+11·44	—1·54	4·58	2·05	3·30	2·94	2·79	7·08	2·50	4·61	10·26	1·60	54·69
,,	Montgomery.....	Carno (Tybrith)	9·39	— ·59	3·37	1·94	2·02	2·28	2·40	5·57	1·85	3·24	+ 9·58	1·03	43·26
,,	Flint	St Asaph (Nantllys)	3·44	— ·61	1·32	1·03	2·13	1·91	2·31	3·54	·98	2·69	+ 5·72	1·00	26·68
,,	Denbigh.....	Rosset (Trevalyn Hall) ...	3·84	— ·61	1·15	1·33	2·07	2·48	2·48	2·88	1·06	1·80	+ 5·97	·78	26·45
,,	Merioneth	Blaenau Ffestiniog	12·80	—2·04	12·25	3·46	3·56	12·53	10·06	6·75	6·20	9·68	+19·38	2·46	101·17
,,	,, ...	Corwen (Rhug Gardens) ...	6·09	— ·81	2·15	1·14	2·49	2·45	2·64	4·80	1·17	2·66	+ 7·41	·84	34·65
,,	Carnarvon.....	Llanystumdwy (Talarvor)	3·77	1·21	3·10	— 1·03	2·71	2·43	2·90	3·63	1·84	2·56	+ 7·93	1·97	35·08
,,	Anglesey	Llanerchymedd (Llwydiarth	2·85	—1·16	4·18	1·64	3·50	2·42	2·88	5·63	3·27	2·57	+ 7·26	2·83	40·19
,,	Isle of Man	Douglas (Victoria Road)...	4·52	—1·82	3·05	1·89	3·21	3·78	2·54	3·84	4·12	2·17	+ 9·81	2·68	43·43
,,	Jersey.....	St. Aubins (Noirmont) ...	4·85	1·88	1·98	2·58	2·43	2·89	4·25	2·06	— ·89	2·75	+ 5·69	1·56	33·81
,,	Guernsey	Les Ruettes Brayes	4·82	1·74	1·92	2·83	2·21	2·93	3·12	2·85	—1·41	2·21	+ 6·08	1·96	34·08
						SCOTLAND.									
XII.	Wigton	Garliestown (Galloway House)	4·68	—1·00	2·39	1·23	2·66	3·59	2·65	3·55	3·31	2·25	+ 9·12	2·51	38·94
,,	,, ...	Corsewall	2·47	1·21	1·49	— ·31	2·38	2·89	2·43	1·12	2·34	·98	+ 5·91	1·30	24·83
,,	Kirkcudbright ...	Dalbeattie(Colvend Manse)	5·21	— ·78	2·90	1·21	4·11	3·85	3·15	2·73	2·59	2·80	+ 7·50	2·10	38·93
,,	,, ...	New Galloway (Glenlee)...	8·25	— ·97	3·87	1·97	4·01	5·79	3·81	3·09	4·37	3·65	+13·09	1·80	54·67
,,	Dumfries	Moffat (Ericstane)	+10·70	— ·40	2·80	1·85	2·60	4·00	2·00	1·40	3·60	3·05	10·10	2·10	44·60
,,	Roxburgh	New Castleton (The Flatt).	6·10	1·10	2·80	1·20	2·30	4·30	3·20	3·50	3·80	2·70	+ 8·50	— ·90	40·40
,,	,, ...	Hawick (Branxholme).....	5·04	1·10	2·29	— ·78	2·01	2·82	2·82	3·83	2·14	1·69	+ 5·63	1·40	31·55
,,	,, ...	Jedburgh	2·56	·80	1·43	— ·77	1·49	3·01	2·23	+4·72	1·64	1·54	4·16	1·71	26·06
XIII.	Peebles	Glenrath	6·15	—1·60	3·25	2·20	2·00	4·15	2·70	3·65	4·10	2·70	+ 9·40	3·00	44·90
,,	,, ...	N. Esk Res. [Penicuick]...	5·35	— ·90	3·75	1·50	2·05	5·75	5·15	5·60	4·85	4·35	+ 8·25	2·55	50·05

SCOTLAND—(*continued.*)

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct	Nov.	Dec.	Total.
XIII.	Berwick	Marchmont House	2·98	1·63	2·29	—1·07	1·84	3·50	3·06	+5·92	2·05	2·77	4·95	2·46	34·52
,,	Haddington	North Berwick Reservoir	2·12	1·20	1·75	— ·63	1·75	3·00	2·75	3·70	2·69	2·93	+ 4·50	2·00	29·02
,,	Edinburgh	Edinburgh (Blacket Place)	3·70	·95	1·83	— ·84	1·71	3·23	2·43	4·28	2·23	3·05	+ 4·84	1·55	30·64
,,	Linlithgow	Uphall	4·37	— ·25	1·88	·79	·84	3·62	3·66	3·91	2·19	2·22	+ 5·71	1·89	31·33
XIV.	Lanark	Biggar (Cambus Wallace)	4·30	— ·80	2·10	1·38	2·10	3·31	2·12	3·90	3·53	2·38	+ 5·80	1·52	33·24
,,	,,	Hamilton (Ardenclutha)	+ 6·25	— ·69	2·28	1·17	2·71	2·93	3·72	3·21	3·27	2·14	5·75	1·36	35·48
,,	Ayr	Colmonell	4·78	1·29	2·84	— ·99	2·95	4·76	3·79	3·22	5·13	2·53	+10·21	1·83	44·32
,,	,,	Ayr (Auchinlee)	4·01	— ·82	2·24	1·43	2·35	3·35	3·00	2·56	3·07	2·57	+ 5·81	1·25	32·46
,,	,,	Old Cumnock	6·26	—1·05	3·07	1·91	3·28	3·79	4·36	3·45	5·72	3·70	+ 8·11	1·71	46·41
XV.	Dumbarton	Arrochar	+13·55	—1·91	7·93	2·39	5·60	7·80	7·18	4·89	11·62	8·81	13·35	3·65	88·68
,,	Stirling	Killearn	9·99	—1·04	3·77	2·06	3·67	4·76	4·76	2·95	5·42	5·72	+10·78	1·31	56·23
,,	Bute	Arran (Pladda)	2·49	— ·48	2·48	·61	3·02	4·09	4·83	3·18	4·01	4·37	+ 6·62	1·47	37·65
,,	Argyll	Holy Loch (Rosmor)	14·52	1·90	6·94	2·30	3·42	7·67	5·61	4·59	8·93	6·58	+15·66	—1·53	79·65
,,	,,	Lochgilphead (Kilmory)	11·57	—1·23	6·35	3·15	2·45	5·33	4·59	4·86	8·13	6·33	+11·91	1·53	67·43
,,	,,	Appin (Airds)	8·71	— ·28	6·63	1·52	2·08	6·64	5·13	5·21	6·73	7·75	+13·81	2·91	67·40
,,	,,	Strontian (Laudale)	+15·08	1·78	9·15	3·85	2·51	7·74	6·58	6·90	8·49	12·68	11·47	—1·15	87·38
,,	,,	Cantire (Devaar)	5·31	— ·55	3·93	1·07	2·20	3·28	4·60	3·30	3·06	4·52	+10·49	1·70	44·01
,,	,,	Islay (Eallabus)	6·81	—1·07	3·88	1·71	1·76	5·58	3·68	5·42	6·31	5·17	+ 9·23	1·39	52·01
,,	,,	Jura (Fladda)	11·10	— ·50	6·70	1·85	1·60	7·85	4·85	5·40	9·40	9·40	+12·25	1·85	72·75
,,	,,	Coll (Arnagour Hotel)	6·47	1·34	4·49	—1·33	1·37	4·25	5·04	4·85	4·28	5·99	+ 9·02	2·15	50·58
XVI.	Clackmannan	Tillicoultry House	6·36	— ·98	2·70	1·63	1·72	4·21	3·61	3·33	5·27	2·89	+ 7·51	2·31	42·52
,,	Fife	Kilconquhar (Balcarres)	3·06	1·72	2·65	— ·84	2·60	3·90	2·25	3·54	3·26	2·91	+ 6·14	2·86	35·73
,,	,,	Strathmiglo (Loden Urquht)	4·59	1·27	3·08	—1·07	1·75	3·88	2·54	3·08	3·63	2·25	+ 6·61	2·17	35·92
,,	Perth	Stronvar	+18·40	1·51	6·36	2·58	3·28	7·24	5·15	3·66	7·35	6·52	11·80	—1·43	75·28
,,	,,	Dunkeld (Inver Braan)	+ 9·23	1·44	2·89	1·62	2·41	3·46	3·83	2·36	3·39	2·18	6·39	—1·29	40·49
,,	,,	Dalnaspidal H.R.S.	+15·17	2·07	6·57	4·28	3·43	4·65	4·68	4·18	4·01	7·17	8·28	—1·54	66·03
,,	Forfar	Dundee (Broughty Ferry)	2·38	1·39	1·86	— ·55	2·02	3·15	3·22	2·84	2·64	2·03	+ 4·26	2·22	28·56
,,	,,	Kirriemuir (Lintrathen)	4·63	1·53	1·95	·95	2·12	3·44	4·22	2·58	2·47	3·14	+ 5·66	— ·59	33·28
XVII.	Kincardine	The Burn	3·60	2·50	2·10	— ·70	2·20	2·40	2·70	3·70	2·40	2·70	+ 5·20	2·10	32·30
,,	Aberdeen	Coldstone Manse	2·86	1·37	2·99	1·36	—1·24	2·11	2·63	2·83	1·88	+ 4·69	4·12	1·83	29·91
,,	,,	Haddo House	2·64	1·41	2·62	— ·95	2·44	1·84	3·13	2·73	1·62	4·52	+ 5·72	3·25	32·87
,,	,,	Old Deer	2·16	1·40	3·42	—1·31	2·51	1·97	5·08	3·32	1·92	4·38	+ 6·54	2·90	36·91
,,	Moray	Grantown	3·45	— ·62	3·09	1·99	1·12	1·90	3·86	3·97	1·51	+ 4·15	3·39	1·72	30·77
,,	,,	Gordon Castle	2·32	·98	2·67	— ·76	·96	2·42	2·86	3·83	·96	+ 5·14	4·15	1·38	28·43
,,	,,	Elgin	2·80	— ·68	2·17	1·11	·80	2·41	3·37	+4·15	1·98	3·65	3·64	·90	27·66

COTLAND—(*continued.*)

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
XVIII.	Ross	Strome Ferry H.R.S.	+13·55	—1·30	6·94	2·47	1·98	5·60	6·94	6·01	5·52	10·41	7·81	1·58	70·11
,,	,, ...	Strathconan	+11·72	1·50	6·04	3·63	1·38	3·58	3·99	5·33	2·09	8·20	5·42	—1·10	53·98
,,	,, ...	Braemore House	13·55	1·35	7·23	3·45	2·04	3·55	4·50	7·00	2·12	+13·87	7·37	— ·51	66·54
,,	,, ...	Ardross Castle	+ 7·37	1·50	3·94	2·51	1·00	2·70	3·01	3·55	2·20	5·96	3·95	— ·74	38·43
,,	Inverness	Fort William	+20·00	1·66	11·33	3·05	2·67	7·66	7·42	6·22	6·70	14·81	10·32	—1·55	93·39
,,	,, ...	N. Uist (Loch Maddy) ...	+10·77	— ·40	5·21	2·67	1·16	5·46	4·93	3·66	3·45	9·23	9·14	1·56	57·64
,,	,, ...	Invergarry	+16·36	1·18	7·48	3·75	2·97	4·56	5·63	4·07	3·60	7·75	8·64	— ·65	66·64
,,	,, ...	Aviemore H.R.S.	+ 4·69	— ·45	3·24	1·45	1·22	2·31	3·32	2·89	1·77	4·27	3·20	1·09	29·90
,,	,, ...	Cawdor [Nairn]	3·40	— ·50	3·03	·78	1·22	1·87	3·24	+4·90	1·65	4·37	2·73	·77	28·46
XIX.	Sutherland	Invershin	3·79	1·05	3·17	2·14	1·34	1·89	3·07	4·25	3·05	+ 6·20	3·47	— ·35	33·77
,,	,, ...	Dunrobin Castle	3·32	1·45	4·78	2·27	1·42	3·09	2·64	3·46	2·72	+ 5·71	3·47	— ·71	35·04
,,	,, ...	Scourie	6·76	— ·89	5·16	2·31	·99	3·68	4·30	6·14	2·47	+ 8·18	5·39	1·73	48·00
,,	Caithness	Wick H.R.S.	2·17	—1·31	2 92	1·85	1·88	2·54	3·54	3·32	2·68	+ 4·86	4·24	1·62	32·93
,,	Shetland	Sumburghead(Dunroseness)	4·17	1·52	4·61	—1·38	1·60	2·51	4·12	2·02	3·35	4·44	+ 4·72	1·80	36·24

IRELAND

XX.	Cork	Dunmanway (Coolkelure) .	+11·61	—3·40	5·86	3·83	5·49	6·42	5·09	3·95	3·77	4·19	11·27	7·51	72·39
,,	,, ...	Cork (Blackrock)	+ 6·13	2·56	4·51	1·33	3·85	3·22	2·40	1·92	2·23	— 1·25	5·21	3·64	38·25
,,	,, ...	Darrynane Abbey.....	6·22	3·72	3·62	3·85	4·73	5·66	4·11	—2·55	3·25	3·60	+ 7·12	4·58	53·01
,,	Kerry.....	Kenmare (Derreen)	+11·45	4·90	6·52	3·99	7·44	6·00	4·12	—2·67	4·05	4·25	7·61	7·08	70·08
,,	,, ...	Dromore Castle.....	6·87	3·39	5·21	—2·31	5·61	6·35	4·99	4·65	3·65	5·59	+12·38	4·89	65·89
,,	Waterford	Waterford (Brook Lodge).	+ 5·94	2·01	3·82	—1·30	3·19	3·76	2·40	2·18	2·32	1·46	4·53	3·62	36·53
,,	Tipperary	Tipperary (Henry Street)	4·67	2·88	3·88	—1·55	3·75	2·00	2·10	2·86	2·09	2·71	+ 4·71	2·73	35·93
,,	,, ...	Nenagh (Castle Lough) ...	+ 7·35	1·46	3·07	—1·28	2·40	2·81	2·49	3·77	3·77	2·00	6·20	2·34	38·94
,,	,, ...	Ballingarry (Hazelfort) ...	+ 5·76	—1·00	2·87	1·10	1·84	2·76	2·94	3·18	3·25	2·27	5·10	1·81	33·88
,,	,, ...	Newcastle West	+ 6·51	—1·78	2·99	1·87	2·63	2·89	2·37	3·55	3·74	3·46	5·47	2·96	40·22
,,	Limerick	Jane Ville	4·89	2·08	—1·50	3·95	6·31	4·20	3·35	2·95	3·05	4·35	+ 5·80	3·88	46·31
,,	Clare	Ennis.....	+ 6·69	2·11	2·29	—1·00	3·18	3·11	2·76	3·24	3·33	3·12	6·11	2·36	39·30
,,	,, ...	Miltown Malbay	6·61	2·60	3·63	—1·40	3·89	4·74	4·49	4·77	4·64	3·65	+ 6·69	2·35	49·46
XXI.	Wexford	Ballyhyland	5·27	2·43	4·26	—1·67	3·60	3·59	2·73	2·60	2·46	1·74	+ 5·70	2·73	38·78
,,	,, ...	Gorey (Courtown).....	4·28	—1·14	2·84	1·57	3·29	2·73	1·70	2·61	2·10	1·51	+ 4·37	2·68	30·82
,,	Kilkenny	Rosbercon Castle	+ 5·04	1·26	2·66	—1·02	2·30	2·52	1·79	2·49	2·05	1·17	3·93	2·57	28·80
,,	,, ...	Kilkenny (Lavistown)	3·19	1·51	3·07	—1·04	2·54	2·20	2·00	2·62	2·31	1·87	+ 4·03	1·80	28·18
,,	Wicklow	Bray (Fassaroe)	5·08	1·58	5·10	2·12	4·28	1·97	1·79	3·00	3·64	—1·07	+ 7·19	3·22	40·04
,,	Carlow	Browne's Hill	4·05	—1·21	4·17	1·27	2·85	2·21	1·78	2·70	2·28	2·18	+ 4·35	2·56	31·61

IRELAND—(*continued.*)

Div.	County.	Station.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
XXI.	Queen's County...	Abbey Leix (Blandsfort)...	3·82	—1·09	4·85	1·49	2·06	2·55	2·49	2·55	4·15	2·83	+ 5·42	1·90	35·20
,,	Kildare	Straffan House.....	3·29	— ·54	3·72	1·59	1·99	2·37	2·00	4·31	2·13	1·41	+ 4·94	2·08	30·37
,,	Dublin	Glasnevin(BotanicGardens)	3·00	— ·81	3·47	1·42	2·52	2·32	2·04	3·17	2·68	·90	+ 4·54	1·99	28·86
,,	Meath	Athboy	3·40	— ·89	3·23	1·01	2·03	3·07	2·23	3·34	2·35	1·80	+ 6·03	2·06	31·47
,,	,, ...	Moynalty (Westland)	4·01	—1·16	3·33	1·48	2·09	2·42	2·52	2·94	2·65	2·07	+ 6·73	1·95	33·35
,,	Westmeath	Mullingar (Belvedere).....	5·18	1·05	3·73	1·27	2·98	3·04	2·67	2·93	3·91	2·06	+ 6·76	—·94	36·52
,,	,, ...	Athlone (Twyford)	4·66	—1·02	3·57	1·46	2·01	2·86	2·69	2·62	3·00	2·44	+ 6·72	2·06	35·11
,,	Louth	Stephenstown	2·53	1·22	2·35	—1·06	1·57	2·18	2·16	3·08	2·65	1·13	+ 5·84	2·65	28·42
,,	,, ...	Greenore	2·89	1·63	2·64	—1·57	1·77	2·44	1·80	2·87	2·72	1·60	+ 6·86	2·65	31·44
,,	Longford	Edgeworthstown	4·52	—1·05	3·14	1·34	2·06	3·24	2·95	3·04	3·34	2·29	+ 6·54	1·82	35·33
XXII.	Galway	Ballinasloe	6·08	— ·68	2·66	1·16	1·65	2·51	2·81	2·86	3·42	2·01	+ 6·50	1·89	34·23
,,	,, ...	Kylemore	8·37	—2·18	3·53	2·58	3·86	10·50	5·90	4·59	9·20	6·12	+15·66	4·39	76·88
,,	,, ...	Tuam.....	6·17	— ·58	2·16	1·78	1·94	3·73	4·06	2·42	3·18	2·86	+ 8·54	2·47	39·89
,,	Roscommon	Donarnen (Castlecoote) ...	5·91	— ·79	3·65	1·64	1·98	3·12	3·22	2·69	2·66	2·31	+ 7·53	2·60	38·10
,,	Mayo	Ballinrobe (Cranmore) ...	7·30	— ·95	2·80	2·22	2·64	3·54	4·30	3·09	3·14	2·51	+ 9·33	2·64	44·46
,,	,, ...	Crossmolina (Enniscoe) ...	8·86	— ·53	3·82	2·31	2·27	3·76	3·38	4·36	3·03	3·39	+ 9·98	1·59	47·28
,,	Sligo	Sligo (Mount Shannon) ...	5·35	— ·61	2·56	2·04	1·62	4·40	3·98	4·96	3·50	4·01	+ 6·82	2·83	43·68
,,	Sleitrim.....	Ballinamore (Lauderdale)..	4·91	— ·78	3·43	2·04	2·03	3·70	3·88	3·98	4·64	2·94	+ 8·83	2·45	42·61
XXIII.	LFemr	Belturbet (Red Hills)	4·67	— ·76	2·85	1·62	1·64	2·65	3·25	3·00	3·54	2·12	+ 6·12	1·34	33·56
,,	Cavanagh	Enniskillen (Florence Crt.)	6·50	·70	2·34	— ·54	1·51	3·09	3·63	4·48	3·50	2·79	+ 8·52	2·76	40·36
,,	Armagh	Edward St. [Newry]	4·62	—1·58	3·67	1·80	1·68	2·85	2·23	2·96	3·66	2·43	+ 7·03	2·44	36·95
,,	,, ...	Armagh.....	2·93	— ·93	2·59	1·26	1·43	2·54	2·12	3·38	3·05	1·75	+ 6·43	1·67	30·08
,,	Down.....	Newcastle (Fairleigh)	6·43	2·75	2·70	2·62	2·30	3·57	2·71	4·12	2·76	— ·89	+14·83	3·45	49·13
,,	,, ...	Donaghadee	2·98	1·38	1·87	— ·65	2·00	2·33	1·49	1·69	2·57	1·37	+ 6·76	2·89	27·98
,,	Antrim	New Barnsley	3·57	—1·53	2·84	1·84	2·16	4·02	2·59	3·58	4·25	3·14	+ 9·58	2·44	41·54
,,	,, ...	Ballymena.....	4·53	—1·18	2·81	1·75	2·03	4·54	2·74	3·33	3·75	2·85	+10·10	1·80	41·41
,,	,, ...	Bushmills (Dundarave) ...	4·36	—1·05	2·88	1·18	1·79	3·49	4·12	4·69	3·56	3·47	+ 7·89	1·74	40·22
,,	Londonderry.....	Newtown Limavady	4·50	— ·79	2·22	1·24	1·36	2·49	3·66	4·42	3·59	3·21	+ 7·21	1·05	35·74
,,	Tyrone	Stewartstown (Ardtrea) ...	4·66	—1·33	2·31	1·60	1·80	3·37	1·93	3·12	3·12	2·05	+ 7·59	1·75	34·63
,,	,, ...	Omagh (Edenfel)	4·70	—1·04	2·93	1·72	1·75	3·23	2·66	4·74	3·56	2·81	+ 7·23	2·01	38·38
,,	Donegal.....	Castlefinn (Finn Lodge) ...	4·98	— ·67	2·69	1·78	1·58	2·66	2·57	4·48	3·27	2·13	+ 6·08	1·68	34·57
,,	,, ...	Malin Head	3·94	— ·70	2·16	1·53	1·15	3 34	3·07	3·09	+5·65	2·69	5·15	1·18	33·65

JANUARY.

A wet, stormy, and mild month—especially on the Western coasts of the three Kingdoms. The month was noteworthy for the number of stations which had upwards of 15 inches of rain.

Div.	Station.	in.	Div.	Station.	in.
XVIII.	Ben Nevis Obs.	29·42	XVI.	Stronvar	18·40
,,	Glen Quoich	22·36	XVIII.	Glencarron	16·50
X.	Grisedale	22·10	,,	Ushenish	16·50
,,	Borrodale (Seathwaite)	21·80	,,	Invergarry	16·36
XVIII.	Fort William	20·00	XVI.	Loch Dhu	16·20
,,	Bendamph	19·66	,,	Glen Gyle	15·60
,,	Glenaladale	19·51	,,	Tunnel Hill Top	15·50
X.	Swindale Head	19·45	,,	Dalnaspidal	15·17
,,	Buttermere (Hassness)	19·07			

FEBRUARY.

There has recently been an exceptional tendency towards drought in this month, and 1890 supported the character, for out of more than 50 stations only one reached the average, and it (North Shields) only exceeded it by 0·18 in. At the great majority of stations the fall was less than an inch and it was only 3·24 in. even at Seathwaite. The deficiency seems to have been more marked on the W. coast than on the E.

MARCH.

A month of nearly average rainfall, rather wetter than usual in the E. of England, in the N.W. of Scotland, and in Ireland. Drier than usual in the W. of England, especially in the counties of Gloucester, Hereford, and Worcester.

APRIL.

A dry month almost everywhere except in the S.E. of England. At Addington, near Winslow, Bucks, the observer points out that the total from Jan. 1 to April 30 (5·70 in.) was the least for the corresponding four months of any of the last 20 years ; at Manchester it was the driest April but one (1873) for 23 years, and similar remarks from other stations will be found at p. [44] Rainfall less than an inch in many counties of England and in a few in Scotland. The least fall seems to have been 0·12 in. at Miningsby, Horncastle.

MAY.

Total rainfall near the average, the only important departure therefrom being an excess in Devon, and Cornwall, and in the S.W. of Ireland. Dry in the N. and N.E. of Scotland.

JUNE.

Rainfall generally above the average except in the central counties of England where it was slightly below it. The excesses were not remarkable, except perhaps in the North of England, and the West both of Scotland and of Ireland.

JULY.

The relation of the total rainfall of this month to the average was, as is often the case, ruled by thunderstorms—viz. : those of July 17th, which have already received full consideration in earlier sections of this volume. Deduct the yield of these storms and the result is the very simple distribution of a deficiency over the whole of England, except the English Lake District, over the S. and E. of Scotland and nearly the whole of Ireland. The TS rains of the 17th turned the minus into a plus over nearly all the S.E. of England, and made it the wettest month in the year, over the greater part of Divisions I., II., III., and IV.

AUGUST.

With the exception of the first week this was a cold, damp month. The total rainfall was not however greatly in excess except in Shropshire, the N.E. of England, the N. of Wales, and in Inverness-shire. At several Irish stations the fall of rain was less than usual. But excepting in Ireland, the number of days with rain was excessive, and troublesome to farmers.

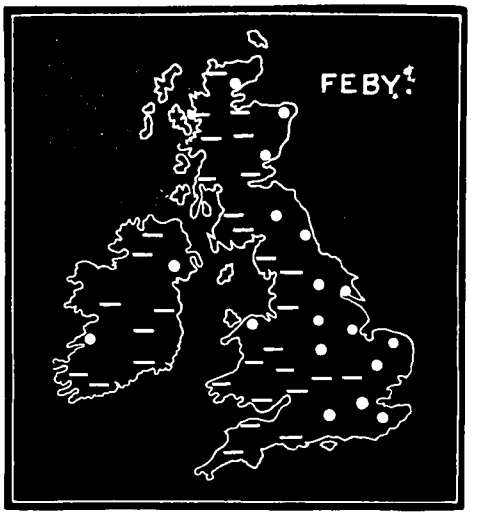
SEPTEMBER.

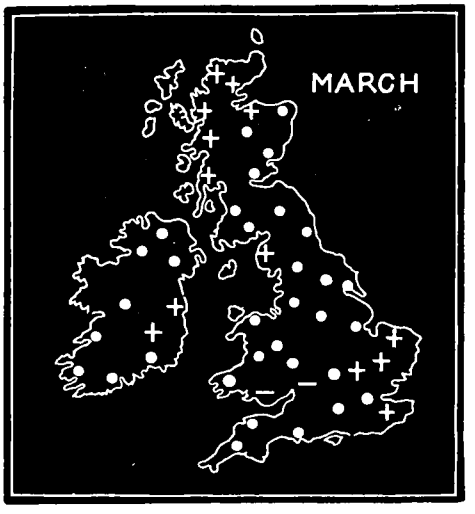
A remarkable contrast to August. Dry. bright, and fine, with very few wet days. The great rain of Sept. 30th, sent the fall above the average at stations in Lancashire, and parts of Scotland and Ireland, otherwise the fall almost everywhere would have been below the average. Indeed, except in the above-named districts, it was very dry, and shared with February, April, and December, the distinction of being the driest month in the year.

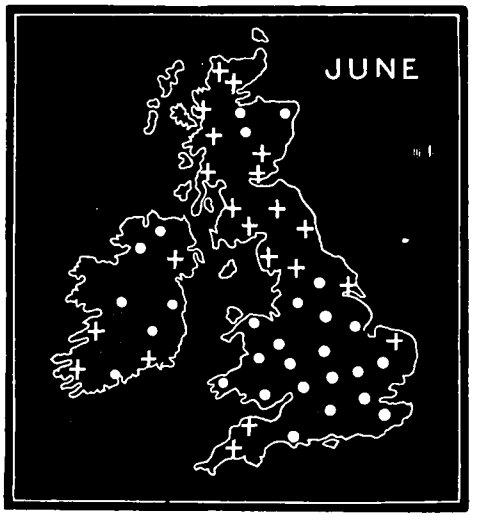
OCTOBER.

A dry October, with a noteworthy frost at the end of it. Rain from one-fifth to one-half of the average, except in the N.W. of Scotland. A total rainfall of less than one inch in October is very unusual, but there were many such cases, and even amid our 233 selected stations there are three below ·75 inch, viz. :

MAPS OF MONTHLY RAINFALL IN 1890.





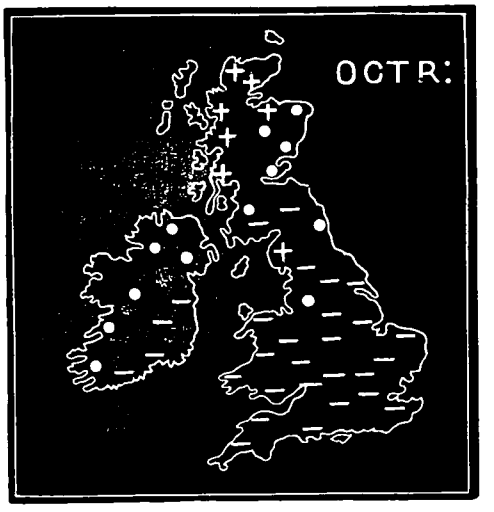


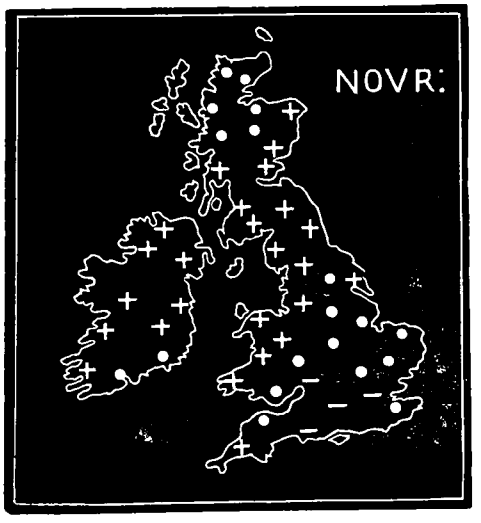
• Within an inch of average.

\+ More than 1 in. above average.

— ,, ,, ,, below ,,

MAPS OF MONTHLY RAINFALL IN 1890.





• Within an inch of average.

\+ More than 1 in. above average.

— „ „ „ below „

V.	Wilts, Salisbury (Alderbury)	·56 in.
,,	Devon, Brixham (Lupton)	·51 in.
IX.	York, W. R., Ripon (Mickley)	·74 in.

while on the contrary we have

XV.	Argyll, Strontian (Laudale)	12·68 in.
XVIII.	Ross (Strome Ferry H.R.S.)	10·41 in.
,,	,, (Braemore House)	13·87 in.
,,	Inverness (Fort William)	14·81 in.

NOVEMBER.

Over the greater part of England the rainfall did not differ much from the average, but it was greatly in excess in the English Lakes, in Wales, and in parts of Scotland and Ireland. In some of these districts it was not only the wettest month in 1890, not merely the wettest November for many years, but the wettest month hitherto known. At all the following stations the total exceeded 15 inches :—

XI.	Llyndulyn	31·95
X.	Seathwaite	25·57
XI.	Pen-y-gwryd	24·20
X.	Dungeon Ghyll	23·10
,,	Little Langdale	21·90
,,	Hassness	19·55
,,	Ullscarf	19·50
XI.	Blaenau Ffestiniog	19·38
XVIII.	Ben Nevis	18·96
X.	Wythburn Vic.	18·95
,,	Borrowdale Vic.	18·77
XI.	Bwlch Tomlyd	18·60
	Ruthwaite Lodge	18·40
	Grasmere	17·45
XI.	Rhiwbrifdir	17·41
VIII.	Duddon Valley, Seathwaite	17·06
X.	High Close	16·92
,,	Elterwater	16·76
VIII.	Monk Coniston	16·64
X.	Ulpha Vic.	16·42
,,	Wythburn	16·40
,,	Borrowdale Grange	16·31
VIII.	Skelwith Fold	16·20
X.	Armboth Fells	16·20
XI.	Doigelly, Werngoch	16·10
X.	Fairfield	15·10
,,	Lesketh Howe	15·95
XV.	Rosmor	15·66
XXII.	Kylemore House	15·66

DECEMBER.

Very cold and very dry ; rain much below the average, except at some stations in Devon and Cornwall, and the E. of Scotland. Wonderfully dry in the Lake district, Seathwaite having only 1·21 inches instead of 14·81, *i.e.*, not one-tenth of the average. The driest month in the year at most English, and at some Scotch and Irish stations.

ON THE RELATION OF THE TOTAL FALL OF RAIN IN 1890 TO THE AVERAGE.

As explained in the earlier portion of this volume, an entire change has been made in this section. The available number of records, perfect for the decade 1880-89, is so much larger than those which we could use for 1870-79, that we have been able to secure nearly two hundred, well distributed over the British Isles. The following map which shows by the + and — signs the character of the rainfall of 1890, shows by the position of those signs, how good is the distribution.

Our remarks upon the relation of the rainfall of the year to the average are based primarily upon the tables given on pages [130] to [133], which are themselves so clear as to need no explanation. They show :—

(1.) That over two-thirds of England, nearly all Wales, most of Scotland, and nearly all Ireland, the rainfall has been near the average.

(2.) That over the centre of England, within an area roughly indicated by a line from the mouth of the Humber to Lampeter, thence to Cardiff, London and Wisbeach, there has been considerable deficiency, averaging 25 per cent., and reaching 35 and 36 per cent. in Oxford, Warwick and Lincoln.

(3.) That in Scotland there was generally an excess, but not so marked as the deficiency in Central England ; the greatest excess was in the West and North West, the absolute extreme being 26 per cent. at Airds, a little to the North of Oban.

(4.) That in nearly all parts of Ireland the fall was within 10 per cent. of the average, and in no case departed more than 13 per cent. from it.

If we turn to the general tables to find whether the conclusions stated above at the end of (2) as to the deficiency in those localities

DIFFERENCE OF TOTAL RAINFALL IN 1890 FROM THE AVERAGE OF 1880-89.

The round dot indicates a rainfall within 10 per cent. of the average.

The + and — respectively show excess or defect of between 10 and 25 per cent.

The same signs enclosed by a ring indicate a departure from the average of more than 25 per cent.

is borne out by adjacent stations, we shall find that it is, and that as regards the 36 per cent. at Miningsby, Lincoln, it would probably be far exceeded had we averages for other adjacent stations. Miningsby, with an average of 26·62 inches, had only 17·06 inches, *i.e.*, 9·56 inches less than its average; but many stations in that neighbourhood had much less than 17 inches, and the following had less than 16 inches.

Boston, Grand Sluice	15·61 in.
,, ...	15·68 ,,
Leake, Lade Bank Engines	15·49 ,,
Alford, Sutton-by-the-Sea	13·10 ,,

This last value is so extremely small that we should have suspected some error, had we not received an almost identical return from the only similarly situated locality on that coast. Unfortunately, the gauge at Skegness was moved during the year and, therefore, its return is excluded from the general tables, but the total collected in the two positions in Skegness is reported as only 12·16 inches!

Similar confirmation will be found for the statement in (3) as to the excess in the W. and N.W. of Scotland. The fall exceeded 100 inches at

XV.	Argyll, Loch Eil (Corran)	102·26 in.
XVIII.	W. Ross, Glencarron Lodge	109·78 ,,
,,	W. Inverness, Ben Nevis Observatory...	198·34 ,,
,,	,, Loch Shiel, Glenaladale	121·79 ,,
,,	,, Glen Quoich	120·61 ,,

These amounts, though very large, are not unprecedented, except perhaps that at Ben Nevis, for which of course previous records extend but a few years; the falls at Corran, Glenaladale, and Glen Quoich have all been surpassed, the first in 1877, and the other two in 1884.

The whole of the following tables have been added and averaged, and the result is given in the appended

ABSTRACT.

COUNTRIES.	No. of Records.	Mean 1880-9.	1890.	Diff. from Average. 1880-89.	
				Amount.	Per cent.
		in.	in.	in.	
England and Wales...	96	33·76	30·07	3·69 —	12
Scotland.....	48	42·54	46·56	4·02 +	9
Ireland	39	39·57	38·54	1·03 —	3
Mean of all Stations...	183	37·30	37·20	1·10 —	5

COMPARISON OF THE RAINFALL OF THE YEAR 1890, WITH THE AVERAGE OF THE YEARS 1880-89.

ENGLAND & WALES.

DIV.	COUNTY.	STATION.	Average, 1880-9.	Depth in 1890.	Difference from average, 1880-9. Amount.	Per cent.
			in.	in.	in.	
I.	Middlesex	London (Camden Square)	25·45	21·23	4·22	— 17
II.	Surrey	Dorking (Abinger Hall)	30·60	27·57	3·03	— 10
,,	Kent	Tenterden (*Snowdon*)	28·11	25·45	2·66	— 9
,,	,,	Maidstone (Hunton Court)	24·59	24·27	·32	— 1
,,	,,	Margate (Renfrew Villa)	23·95	23·34	·61	— 3
,,	Sussex, West	Chichester (Chilgrove)	32·83	29·33	3·50	— 11
,,	Sussex, East	Lewes (Glynde Place)	31·14	30·17	·97	— 3
,,	Hampshire	Isle of Wight (Osborne)	27·29	24·61	2·68	— 10
,,	,,	Christchurch (Mudeford)	27·01	22·94	4·07	— 15
,,	,,	Alresford (Ovington)	31·02	28·03	2·99	— 10
,,	Berkshire	Newbury (Welford Park) *n.g.*	30·27	23·75	6·52	— 22
III.	Hertfordshire	Hertford (Bayfordbury)	25·04	20·04	5·00	— 20
,,	Buckingham	Great Marlow	27·81	23·90	3·91	— 14
,,	,,	Winslow (Addington Manor)	27·97	21·32	6·65	— 24
,,	Oxfordshire	Oxford (Magdalen Coll.)	26·19	17·02	9·17	— 35
,,	Northampton	Kettering	27·18	20·02	7·16	— 26
,,	Bedfordshire	Cardington 3 ft. 6 in.	23·60	17·79	5·81	— 25
,,	Cambridgeshire	Ely (Stretham)	22·39	19·44	2·95	— 13
,,	,,	Wisbech (Bank House)	25·27	19·51	5·76	— 23
IV.	Essex	Maldon (Norton Hall)	22·01	22·83	·82	+ 4
,,	,,	Saffron Walden (Newport)	24·82	23·75	1·07	— 4
,,	Suffolk	Stutton (Alton Hall)	22·84	22·20	·64	— 3
,,	,,	Ixworth (Walsham-le-Willws.)	26·13	24·56	1·57	— 6
,,	Norfolk	Diss	25·81	25·54	·27	— 1
,,	,,	Swaffham (Grammar School)	28·41	25·78	2·63	— 9
,,	,,	Sprowston	26·11	24·24	1·87	— 7
,,	,,	Hunstanton	23·93	20·61	3·32	— 14
V.	Wilts	Salisbury Plain (Chitterne Ho.)	28·26	23·87	4·39	— 16
,,	,,	Swindon (Pen Hill)	27·19	22·43	4·76	— 18
,,	Dorset	Weymouth (Langton Herring)	29·36	24·44	4·92	— 17
,,	Devon	Torquay (Babbacombe)	34·59	30·57	4·02	— 12
,,	,,	Coryton (Lew Down)	46·29	41·08	5·21	— 11
,,	,,	Bampton (Huntsham)	44·52	43·12	1·40	— 3
,,	,,	Barnstaple (Arlington Court)	52·85	47·96	4·89	— 9
,,	Cornwall	Marazion	38·68	41·53	2·85	+ 7
,,	,,	St. Austell (Trevarna)	47·10	47·69	·59	+ 1
,,	Somerset	Glastonbury (Street)	31·16	26·83	4·33	— 14
VI.	Gloucestershire	Clifton (South Parade)	35·32	24·91	10·41	— 29
,,	,,	Stroud (Upfield)	30·91	21·91	9·00	— 29
,,	Hereford	Ross (The Graig)	31·18	22·53	8·65	— 28
,,	,,	Kington (Lynhales)	35·32	26·18	9·14	— 26

ENGLAND & WALES.—*Continued.*

DIV.	COUNTY.	STATION.	Average, 1880-9.	Depth in 1890.	Difference from average, 1880-9.	
					Amount.	Per cent.
			in.	in.	in.	
VI.	Shropshire	Bishop's Castle (Castle Street).	34·08	27·03	7·05	— 21
,,	,,	Oswestry (Hengoed)	34·95	29·32	5·63	— 16
,,	,,	Adderley Rectory	28·80	26·76	2·04	— 7
,,	Stafford	Dennis [Stourbridge]	28·07	21·95	6·12	— 22
,,	,,	Burton (Shobnall)	25·86	18·70	7·16	— 28
,,	,,	Cheadle (The Heath House)	32·71	28·52	4·19	— 13
,,	Worcester	Northwick Park	30·09	21·77	8·32	— 28
,,	,,	Grt. Malvern (Hornyold Road)	30·45	21·72	8·73	— 29
,,	Warwick	Kineton (Fenny Compton)	27·53	17·77	9·76	— 35
,,	,,	Coventry (Priory Row)	28·94	22·07	6·87	— 24
VII.	Leicester	Thornton Reservoir	27·69	21·47	6·22	— 22
,,	Rutland	Market Overton	28·54	22·43	6·13	— 21
,,	Lincoln	Stubton [Newark]	27·44	20·66	6·78	— 25
,,	,,	Horncastle (Miningsby)	26·62	17·06	9·56	— 36
,,	,,	Brigg	27·22	21·70	5·52	— 20
,,	Nottingham	Worksop (Hodsock Priory)	25·84	21·19	4·65	— 18
,,	Derby	Matlock Bath	36·62	26·30	10·32	— 28
,,	,,	Glossop (Spire Hollin)	41·60	38·48	3·12	— 7
VIII.	Cheshire	Chester Nurseries	29·08	27·93	1·15	— 4
,,	,,	Chelford (Astle Hall)	30·73	27·43	3·30	— 11
,,	Lancashire	Ormskirk (Rufford)	31·86	31·44	·42	— 1
,,	,,	Over Darwen (St. James's Vic.)	46·56	48·67	2·11	+ 5
,,	,,	Blackpool (South Shore)	33·94	37·70	3·76	+ 11
,,	,,	Cartmel (Holker)	42·25	45·44	3·19	+ 8
IX.	York, W. Ridng.	Wakefield (Walton)	26·31	20·20	6·11	— 23
,,	,, ,,	Otterburn-in-Craven	41·19	39·75	1·44	— 3
,,	,, ,,	Knaresborough (Farnham)	27·37	23·54	3·83	— 14
,,	,, E.Riding.	Pocklington (Warter)	30·46	26·38	4·08	— 13
,,	,, N.Riding.	Malton	26·90	23·07	3·83	— 14
,,	,, ,,	Leyburn	36·10	32·75	3·35	— 9
,,	,, ,,	Whitby (Guisborough Road)	26·66	25·92	·74	— 3
X.	Durham	Darlington (South End)	26·45	25·30	1·15	— 4
,,	,,	Wolsingham	35·27	32·33	2·94	— 8
,,	Northumberlnd	Haltwhistle (Unthank Hall)	35·97	34·43	1·54	— 4
,,	,,	Rothbury (Brinckburn)	30·86	32·43	1·57	+ 5
,,	,,	Pawston (Coldstream)	30·00	30·50	·50	+ 2
,,	Cumberland	Borrodale (Seathwaite)	129·01	141·80	12·79	+ 10
,,	,,	Carlisle Cemetery	30·34	31·96	1·62	+ 5
,,	Westmoreland	Appleby	32·75	30·11	2·64	— 8
XI.	Monmouth	Abergavenny (Larchfield)	38·65	27·80	10·85	— 28
,,	Glamorgan	Cardiff Castle	39·55	28·71	10·84	— 27
,,	,,	Neath	50·13	46·24	3·89	— 8
,,	Carmarthen	Carmarthen (Jo. Co. Asylum)	48·68	43·35	5·33	— 11
,,	Pembroke	Pembroke (Stackpole Court)	41·59	35·91	5·68	— 14
,,	,,	Castle Malgwyn [Llechryd]	45·29	39·15	6·14	— 14
,,	Brecknock	Brecknock (Cantreff)	51·27	41·16	10·11	— 20
,,	Radnor	Rhayader (Nantgwillt)	62·80	54·69	8·11	— 13
,,	Montgomery	Carno (Tybrith)	49·28	43·26	6·02	— 12
,,	Denbigh	Colwyn (Nant-y-Glyn)	31·55	31·10	·45	— 1

ENGLAND & WALES.—*Continued.*

DIV.	COUNTY.	STATION.	Average, 1880-9.	Depth in 1890.	Difference from average, 1880-9. Amount.	Per cent.
			in.	in.	in.	
XI.	Merioneth	Llanderfell (Palé)	47·47	42·21	5·26	— 11
,,	Carnarvon	Llanystumdwy (Talarvor)	36·53	35·08	1·45	— 4
,,	Anglesea	LlanerchymeddLwdiarthEsgob	36·63	40·19	3·56	+ 10
,,	Isle of Man	Douglas (Victoria Road)	40·60	43·43	2·83	+ 7
,,	Scilly	St. Mary's	32·42	32·35	·07	— 0
,,	Jersey	St. Aubins (Noirmont)	34·75	33·81	·94	— 3
		SCOTLAND.				
XII.	Kirkcudbright	Dalbeattie (Colvend Manse)	36·08	38·93	2·85	+ 8
,,	,,	Gatehouse Cally	49·15	50·85	1·70	+ 3
,,	,,	Cargen [Dumfries]	39·74	39·53	·21	— 1
,,	Dumfries	Durrisdeer (Drumlanrig Cas.)	42·00	38·70	3·30	— 8
,,	,,	Moffat (Ericstane)	52·63	44·60	8·03	— 15
,,	Roxburgh	New Castleton (The Flatt)	43·90	40·40	3·50	— 8
,,	,,	St. Boswells (Elliston)	28·73	27·03	1·70	— 6
XIII.	Peebles	Manor (Glenrath)	39·52	44·90	5·38	+ 14
,,	Berwick	Marchmont House	34·01	34·52	·51	+ 1
,,	,,	Haddington Asylum	26·24	29·23	2·99	+ 11
,,	Edinburgh	Pentland Hills (Glencorse)	39·21	44·43	5·22	+ 13
XIV.	Lanark	Airdrie (Hill End Res.)	35·80	42·28	6·48	+ 18
,,	Ayr	Ballantrae (Glendrishaig)	40·64	45·23	4·59	+ 11
,,	,,	Ayr (Auchinlee)	32·52	32·46	·06	— 0
,,	,,	Ardrossan (Kirkhall)	34·92	36·88	1·96	+ 6
,,	Renfrew	Gorbals W.W. (Waulk Glen)	43·32	53·05	9·73	+ 22
XV.	Dumbarton	Helensburgh (Lyleston)	45·14	45·70	·56	+ 1
,,	,,	Arrochar	74·10	88·68	14·58	+ 20
,,	Bute	Rothesay (Barone Cottage)	46·04	51·56	5·52	+ 12
,,	Argyll	Lochgilphead (Kilmory)	58·49	67·43	8·94	+ 15
,,	,,	Appin (Airds)	53·62	67·40	13·78	+ 26
,,	,,	Strontian (Laudale)	78·71	87·38	8·67	+ 11
,,	,,	Islay (Eallabus)	47·65	52·01	4·36	+ 9
,,	,,	Mull (Quinish)	57·28	66·12	8·84	+ 15
XVI.	Kinross	Kinross (Turfhills)	39·48	44·71	5·23	+ 13
,,	Perth	Bridge of Turk	66·09	63·75	2·34	— 4
,,	,,	Dalnaspidal	57·61	66·03	8·42	+ 15
,,	Forfar	Broughty Ferry (Douglas Ho.)	27·27	28·56	1·29	+ 5
XVII.	Kincardine	Fettercairn	32·72	28·83	3·89	— 12
,,	Aberdeen	Braemar	35·57	39·18	3·61	+ 10
,,	,,	Cromar (Logie Coldstn. Manse)	28·62	29·91	1·29	+ 5
,,	,,	Aberdeen (Rose Street)	27·76	29·91	2·15	+ 8
,,	,,	Inverurie Manse	34·96	33·69	1·27	— 4
,,	,,	Old Deer	30·57	36·91	6·34	+ 21
,,	Banff	Keith	29·98	33·56	3·58	+ 12
,,	Elgin	Grantown	28·65	30·77	2·12	+ 7
,,	Nairn	Nairn (School House)	22·61	25·88	3·27	+ 14
XVIII.	Ross, West	Strome Ferry	60·85	70·11	9·26	+ 15
,,	,,	Strathconan [Beauly]	49·76	53·98	4·22	+ 8
,,	,,	Braemore House	57·94	66·54	8·60	+ 15
,,	Ross, East	Alness (Ardross Castle)	35·31	38·43	3·12	+ 9

SCOTLAND—*Continued.*

DIV.	COUNTY.	STATION.	Average, 1880-9.	Depth in 1890.	Difference from average, 1880-9. Amount.	Per cent.
			in.	in.	in.	
XVIII.	Inverness, West	Glenquoich	102·64	120·61	17·97	+ 17
XIX.	Sutherland	Golspie	30·47	34·42	3·95	+ 13
,,	,,	Lairg	32·82	38·76	5·94	+ 12
,,	,,	Scourie	40·58	48·00	7·42	+ 18
,,	Caithness	Watten	27·01	30·32	3·31	+ 12
,,	Orkney	S. Ronaldshay (Roeberry)	31·61	34·60	2·99	+ 9
,,	,,	Shapinsay (Balfour Castle)	31·83	38·30	6·47	+ 20
		IRELAND.				
XX.	Kerry	Kenmare (Derreen)	67·99	70·08	2·09	+ 3
,,	,,	Valentia (Telegraph Station)	55·86	57·56	1·70	+ 3
,,	Waterford	Waterford (Brook Lodge)	38·31	36·53	1·78	— 5
,,	,,	Glenam [Clonmel]	42·15	39·94	2·21	— 5
,,	Tipperary	Tipperary (Henry Street)	37·78	35·93	1·85	— 5
,,	,,	Derry Castle [Killaloe]	46·33	47·18	·85	+ 2
,,	Limerick	Limerick (Kilcornan)	30·76	31·55	·79	+ 3
,,	Clare	Ennis	39·20	39·30	·10	+ 0
,,	,,	Miltown Malbay	44·12	49·46	5·34	+ 12
XXI.	Wexford	Enniscorthy (Ballyhyland)	42·80	38·78	4·02	— 9
,,	,,	Gorey (Courtown House)	35·39	30·82	4·57	— 13
,,	Kilkenny	Inistiogue (Woodstock)	41·67	38·83	2·84	— 7
,,	Wicklow	Bray (Fassaroe)	43·28	40·04	3·24	— 7
,,	Carlow	Carlow (Browne's Hill)	33·59	31·61	1·98	— 6
,,	King's Co.	Parsonstown (Birr Castle)	32·22	30·60	1·62	— 5
,,	Dublin	Dublin (FitzWilliam Square)	27·47	27·56	·09	+ 0
,,	West Meath	Mullingar (Belvedere)	34·69	36·52	1·83	+ 5
,,	,,	Athlone (Twyford)	38·97	35·11	3·86	— 10
,,	Louth	Louth (Stephenstown)	31·31	28·42	2·89	— 9
,,	Longford	Edgeworthstown (Currygrane)	35·43	35·33	·10	— 0
XXII.	Galway	Ahascragh (Clonbrock)	39·91	41·45	1·54	+ 4
,,	,,	Tuam Gardenfield ..... 1 ft.	44·28	39·89	4·39	— 10
,,	Mayo	Crossmolina (Enniscoe)	51·41	47·28	4·13	— 8
,,	Sligo	Sligo (Mount Shannon)	40·52	43·68	3·16	+ 8
XXIII.	Fermanagh	Brookboro' (Colebrook Park)	41·02	39·58	1·44	— 4
,,	Armagh	Armagh Observatory	32·16	30·08	2·08	— 6
,,	Down	Warrenpoint (Summer Hill)	37·88	33·23	4·65	— 12
,,	,,	Seaforde	37·89	33·35	4·54	— 12
,,	,,	Banbridge (Milltown)	31·44	29·92	1·52	— 5
,,	,,	Sydenham (Alma House)	38·21	33·60	4·61	— 12
,,	Antrim	Belfast (Antrim Road)	34·57	35·19	·62	+ 2
,,	,,	Ballymena (Harryville)	39·41	41·41	2·00	+ 5
,,	,,	Bushmills (Dundarave)	37·87	40·22	2·35	+ 6
,,	Londonderry	Garvagh (Moneydig)	39·02	38·38	·64	— 2
,,	,,	Londonderry (Creggan Res.)	40·78	43·95	3·17	+ 8
,,	,,	Bellarena	39·18	37·36	1·82	— 5
,,	Tyrone	Stewartstown (The Square)	34·90	34·35	·55	— 2
,,	,,	Omagh (Edenfel)	36·63	38·38	1·75	+ 5
,,	Donegal	Raphoe (Convoy House)	46·94	40·69	6·25	— 13

EXTREMES OF RAINFALL IN 1890.

Largest Rainfall, at The Stye, Cumberland..... 202·05 in.
Least Rainfall, at Sutton-by-the-Sea, Lincolnshire ..... 13·10 ,,

ENGLAND.

Greatest.			Least.		
Div.		in.	Div.		in.
X.	The Stye	202·05	VII.	Alford (Sutton-by-the Sea).....	13·10
,,	Sprinkling Tarn	157·00	IX.	Bridlington Quay.....	15·42
,,	Styehead Tarn	142·90	VII.	Leake (Lade Bank Engine	15·49
,,	Seathwaite..... ...	141·80	III.	Earls Barton Vicarage.....	15·81
,,	Little Langdale (Fell Foot).	115·10	VI.	Tewkesbury	16·23
,,	Ullscarf.....	113·50	IX.	Patrington (Spurn Head)	16·25

MONMOUTH, WALES AND THE ISLANDS.

Greatest.			Least.		
Div.		in.	Div.		in.
XI.	Pen-y-gwryd Hotel	138·80?	XI.	Monmouth (The Hendre) ...	22·89
,,	Llanbedr-y-Cennin(Llyndulyn)	124·40	,,	,, (Pentwyn)	23·58
,,	Bl. Ffestiniog (Cefn faes).....	101·17	,,	Hay (Gwern-y-fedd)	24·04?
,,	Garthbibio (Bwlch Tomlyd)...	99·70	,,	Rhyl (Sedgeley House)	24·35
,,	Rhiwbryfdir	*94·90*	,,	Welshpool (Pool Quay)	24·44
,,	Neath (Glyncorrwg)	78·83	,,	Chepstow (Piercefield Park)	24·99

SCOTLAND.

Greatest.			Least.		
Div.		in.	Div.		in.
XVIII.	Ben Nevis Observatory.....	198·34	XVI.	Cupar(Fife&KinrossAsylum)	20·25
,,	Loch Shiel (Glenaladale) ...	121·79	XVIII.	Fearn (Lower Pitkerrie) ...	24·47
,,	Glenquoich	120·61	XVI.	Pittenweem (The Priory)...	24·51
,,	Glencarron Lodge	109·78	XIII.	Coldstream (The Hirsel) ...	24·81
XV.	Lock Eil (Conaglen)	98·53	XVII.	Forres (Grange Hall)	25·10
,,	Ballachulish	95·84	,,	,, H.R.S.	25·14

IRELAND.

Greatest.			Least.		
Div.		in.	Div.		in.
XXII.	Clifden (Kylemore House) ...	76·88	XXI.	Killiney (Clonevin)	19·93?
,,	,, (,, Castle) ...	75·15	XXIII.	Corbet Reservoir	23·05?
XX.	Dunmanway (Coolkelure) ...	72·39	XXI.	Killiney (Eirene)	24·33
,,	Kenmare (Derreen)	70·08	XXIII.	Banbridge (Katesbridge) ...	24·74
,,	Dromore Castle.....	65·89	XXI.	Dublin (Upper Leeson Street	25·20
XXIII.	Killybegs	61·85	,,	,, (Phœnix Park)	25·47

NOTE.

In selecting the minima, no record is used from any gauge of which the receiving surface is more than 3 ft. above the ground. Second gauges, and those at Lighthouses, are also excluded.

GENERAL TABLES

OF

TOTAL RAINFALL IN 1890,

AT NEARLY

3000 STATIONS

IN THE

BRITISH ISLES.

EXPLANATION OF THE ARRANGEMENT OF THE FOLLOWING GENERAL TABLES.

The divisions are the same as those adopted by the Registrars General of England and Scotland, and the counties follow the same order as in the reports of those officers ; but an alphabetical list of the counties is given, whereby the page or pages on which all returns from each county will be found, can be at once ascertained.

The stations in each county are arranged nearly in the order of their latitude from South to North.

To facilitate finding the localily of any gauge, the first name is almost always that of a place given in *Bradshaw*, the *British Postal Guide*, or the *Clergy Directory ;* the second name is generally added to fix accurately the site of Observation ; but, in a very few instances, when in [ ] instead of ( ), it is that of the nearest town in an adjoining county ; *e.g.*, "Lowestoft (Carlton Colville)" means Carlton Colville, near Lowestoft, both in one county, but "Geldeston [Beccles]" means Geldeston, Norfolk, near Beccles, in another county —Suffolk.

The contents of the columns are sufficiently explained by the headings, except that in that headed "diameter," figures will be noticed of old-style type; these figures indicate the length of the sides of rectangular mouthed gauges. These measurements are all in inches.

The letter D denotes that a copy of the daily record has been received, that it is perfect throughout the year, and that the printed amount is the correct total of these daily entries. The letter M indicates a monthly record, *i.e.*, that the observation is made only on the first of each month.

This year a few entries of total rain will be found in italics—in these cases there is slight uncertainty either as to possible overflow, or as to the measurement of snow.

An asterisk * denotes that the gauge was tested before erection, and a † that it has been visited and examined since. A note of interrogation (?) implies doubt, not necessarily error. ... indicates the absence of information.

In the column of altitudes several symbols are used, their meaning is as follows :—Ⱦ, that a series of levels has been taken from the gauge to an Ordnance bench mark; T, that the height is estimated or ascertained approximately from the same source ; L, that levels have been taken from the gauge to the sea, or to some datum other than Ordnance mean sea level ; B, that the altitude has been taken by the barometer ; and ?, that the height is uncertain

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ENGLAND AND WALES.

DIVISION I.—MIDDLESEX.

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above SeaLevel	Depth of Rain. 1890	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	MIDDLESEX.						
	Sunbury (Hanworth Road)	W. B. Bryan, Esq., C.E.	8	1 0	50 ⇈	21·85	172
	Teddington (Gomer House)	R. D. Blackmore, Esq..	5	0 10	26 ⇈	23·39	155
	Staines (Knowle Green)	Miss Pellatt	5	5 2	...	*19·67*	118
	Twickenham (Holy Trinity Vic.)	Miss Anderson	5	1 5	37 ↑	21·21	155
D	,, (Vale House)	L. Gordon Rylands, Esq	5	1 0	20	19·89	158
D	Chelsea (Carlyle Mansions)	F. G. Peck, Esq.	8	82 6	...	19·16	150
D	,, (St. Luke's Gardens) ...	TWE. Higgens, Esq. CE	5	1 0	25 ⇈	20·65	170
D	Gunnersbury Station	E. Mann, Esq.	5	0 11	35	20·18	149
	Ealing (Local Board Office)	C. Jones, Esq., C.E. ...	5	7 6	85	20·35	127
D	Kensington (Edith Road).....	G. von U. Searle, Esq.	5	0 8	13 ↑	20·09	171
D	,, (Holland House) ...	Mr. C. Dixon	5	6 6	68 ⇈	21·02	167
D	,, (Addison Gardens)...	G. H. M. Whish, Esq..	5	1 1	23 ↑	21·97	171
D	,, (Campden Hill, W.)	M. W. Hervey, Esq., C.E.	8	4 10	130 ⇈	22·06	162
D	London (Savile Row, W.)	G. S. Johnson, Esq. ...	5	...	...	20·25	164
D	,, (Lansdowne Cres. W.)...	G. T. Gwilliam, Esq...	5	0 9	80 ↑	22·41	168
D	,, (Norfolk Terrace, W.)...	A. P. Baker, Esq.	5	0 9	64 ↑	22·83	171
	,, (Guildhall), E.C.	Col. Haywood, C.E. ...	8	2 6	49 ↑	19·93	148
	,, (,,)	,, ,, ,, ...	8	51 0	98 ↑	20·12	147
	,, (Old Street), E.C.	The Royal Meteor. Soc.	5	1 0	70 ↑	21·08	165
	Perivale (Sewage Farm)	C. Jones, Esq., C.E. ...	5	12 0	56	19·81	154
D	London (Gloucester Place W.) ...	W. B. Heberden, Esq..	5	2 6	...	21·26	175
	,, (Regent's Pk. R. Bot. Soc.)	W. Sowerby, Esq.....	8	1 0	126 ⇈	22·29	173
	,, (Canonbury)	Mrs. Spiller	5	1 3	117	21·47	164
D†	,, (Camden Square), N.W...	G. J. Symons, Esq. F.R.S	8	0 8	111 ⇈	21·23	161
†	,, (,, ,,) .....M	,, ,, ,, ...	5	1 0	111 ⇈	21·41	...
†	,, (235, Camden Road), N.	W. B. Butler, Esq. ...	5	1 0	160 ↑	21·75	171

DIVISION I.—MIDDLESEX.—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
MIDDLESEX—(*con.*)						
†London (235, Camden Road) ...M	W. B. Butler, Esq. ...	5	1 0	160 T	22·24	...
Hackney (Richmond Road), N.E.	J. W. Tripe, Esq. M.D.	5	7 0	65 ⅄	19·48	164
,, (,, ,, ,,)	,, ,, ,, ...	8	1 0	65 ⅄	21·57	...
Hampstead (Roslyn House) N.W.	C. H. L. Woodd, Esq..	8	1 4	330 T	22·47	161
D ,, (Kidderpore Reserv.)	M. W. Hervey, Esq....	8	1 6	323 ⅄	21·91	142
D ,, (Branch Hill Lodge)	B. Woodd Smith, Esq.	8	0 10	380 T	*21·63*	141
† ,, (Squire's Mount) ...	Rogers Field, Esq. C.E.	5	1 0	388 ⅄	21·99	165
,, (The Pryors)	,, ,, ,, ,,	5	1 0	327 ⅄	22·04	184
D Stoke Newington Res., N.....	J. Francis, Esq., C.E.	9	3 3	104 T	22·06	157
D Highgate (Northwood Road).....	Mrs. Sowerby Wallis...	5	1 0	265 T	23·38	153
†Child's Hill (Helenslea), N.W.M	A. J. Woodhouse, Esq.	5	1 6	245 T	22·16	...
D*Upper Clapton (The Common) ..	J. Parnell, Esq.	5	1 1	98 ⅄	21·75	162
Finsbury Park (Endymion Ter.)	Rev. E. Healy	5	1 6	125 T	24·06	...
D Tottenham	J. E. Worth, Esq., C.E.	8	1 0	47 T	23·11	160
D Muswell Hill	Miss Abethell.....	5	0 10	310 T	25·88	181
Finchley East (Elmhurst).....	B. C. Wainwright, Esq.	8	0 7	300 T	25·20	158
† ,, (Etchingham Park) ...	J. W. Scott, Esq.	5	0 11	295 T	25·48	179
D† ,, (,, ,,) ...	,, ,, ,, ...	8	1 3	295 T	25·62	179
D Pinner Hill.....	A. Helsham-Jones, Esq.	5	3 6	410 T	*20·56*	155
D Harrow Weald (Hill House) ...	A. Crossman, Esq.....	5	0 8	...	23·32	177
Stanmore Observatory	S. T. Klein, Esq.	5	1 0	262	23·19	214
D Friern Barnet (Sewage Works)..	BaldwinLathamEsq CE	5	1 0	156 ⅄	22·96	186
D Whetstone	,, ,, ,, ...	5	1 0	315 ⅄	24·13	154
D Enfield (Old Park)	A. L. Ford, Esq.	5	1 9	156 T	26·15	177
D ,, (Nag's Head Lane)	J. Francis, Esq., C.E..	12	3 0	108 T	24·24	153
D Monken Hadley [Barnet].....	F. A. Milne, Esq.	5	0 10	426 T	24·55	164

DIVISION II.—SOUTH EASTERN COUNTIES.

SURREY.						
D Haslemere	J. W. Penfold, Esq. ...	8	4 0	481 ⅄	29·55	181
D ,, (Hazelhurst)	T. P. Newman, Esq....	5	1 0	550 T	28·76	185
,, (Grayswood Hill)	B. E. C. Chambers, Esq.	5	1 0	580 ⅄	28·78	...
Godalming (Dunsfold)	Mr. W. Underwood ...	5	1 6	166	21·11	...
Haslemere (Weycombe)	G.B.Buckton,Esq.FRS.	5	3 2	583 ⅄	26·60	...
Godalming (Hascombe).....	E. S. Rowcliffe, Esq....	10	2 0	273 ⅄	*26·10*	...
D Cranleigh (Winterfold).....	Mr. R. Turvey	8	3 6	603 T	26·24	145
D Ewhurst (Heathside) .....*old g.*	J. Sparkes, Esq.	5	0 9	600 ⅄	30·34	202
,, (,,)	,, ,, ...	5	0 0	600 ⅄	30·92	202
D Godalming (Witley)	Mrs. Foster.....	5	1 0	350 T	25·86	170
D Ewhurst (Coneyhurst)	Miss Ewart.....	8	1 6	561	27·97	176
Dorking (Holmbury).....	Mr. Bayman	5	1 0	560 T	29·14	225
D ,, (Abinger Hall)	Sir T. H. Farrer, Bt....	8	2 0	320 T	27·57	177
† ,, (Holmwood)	A. Sconce, Esq.	5	1 2	320 T	*27·57*	...
† ,, (Fir Tor).....	F. Taylor, Esq.	5	0 10	280 B	27·24	...
D Brockham Vicarage	Rev. A. Cheales.....	5	1 0	158 ⅄	25·45	154
,, (North Lodge).....	H. R. Kempe, Esq. ...	8	0 9	...	25·77	...

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	SURREY—(*con.*)						
D	Farnham (The Bourne Vicarage)	Rev. T. W. Sidebotham	5	1 0	308 ⅄	23·71	175
D	,, (Alverley Tower)	J. Box, Esq.	5	1 0	335 T	22·05	159
D	,, (Great Down, Seale)	Mrs. Kitchin	8	1 0	490 T	22·24	120
	Guildford (Piccards Rough)	C. M. Powell, Esq.	5	2 0	325	24·74	...
D	,, (Guildown The Beeches)	Miss Hadden	5	0 11	220 T	25·35	201
D	Reigate (Woodhatch Lodge)	T. B. Haywood, Esq.	5	1 0	270 T	26·15	159
D	,, (Ringley Mead)	R. L. Hesketh, Esq.	5	1 0	345 T	27·91	175
D	,, (Sewage Farm)	F. D. Clark, Esq., C.E.	8	1 0	196	*24·55*	147
	Dorking (The Denbies)	Mr. J. Beesley	5	0 6	610 T	27·94	156
D	Buckland (Shagbrook)	Miss Carr Saunders	5	1 0	240 T	25·14	167
D†	Red Hill (Oxford Road)	W. H. Tyndall, Esq.	8	1 0	300 ⅄	28·14	172
	,, (Montpellier)	Mrs. Stephenson	5	1 0	...	27·78	...
D	Reigate (Dovers Lodge)	R. W. Clutton, Esq.	5	0 7	192	26·17	177
D	,, (Holmfels)	Miss Baker	5	1 0	264 T	26·73	167
D	,, (Castle Grounds)	Mr. Jeal	5	1 0	325 ⅄	26·63	169
D	,, (Doods)	G. E. Pym, Esq.	5	1 3	350 ⅄	28·14	186
†	,, (Wray Park)	A. Rosling, Esq.	5	1 0	330 T	28·26	146
D	,, (Nutwood)	H. E. Gurney, Esq.	5	1 4	440 T	27·39	166
D	Nutfield Priory	J. Fielden, Esq.	8	1 2	468 ⅄	26·13	176
D	,, (Holmesdale)	C. T. Maw, Esq.	8	3 0	500 T	25·31	178
D	Reigate Hill (Lovelands)	R. Binns, Esq.	5	1 3	600 ?	29·23	195
D	Guildford (Wern)	Miss Mathew	5	4 0	170	24·34	161
D	Dorking (High Ashurst)	The Hon. H. D. Ryder	5	10 0	560	25·45	145
	Horsley Towers	The Earl of Lovelace	8	1 0	330	22·62	...
	Leatherhead (Downside)	A. Tate, Esq.	...	...	...	20·63	...
D	Caterham Asylum	Dr. Elliot	5	1 0	610	28·67	144
D	,, Valley (Birchwood Ho.)	Messrs. C. & F. Rutley	5	1 0	471 ⅄	26·24	190
D	Camberley (Heathcote)	Maj.-Gen. Stotherd C.B.	5	1 0	292 ⅄	22·56	153
D	Kenley (Ingleside)	H. Smith, Esq.	8	1 0	375 T	26·61	193
D	Ashtead (D'Abernon Chase)	Sir W. Vincent, Bart.	5	1 0	300 T	25·83	155
D	Woking (Horsell Vic.)	Rev. J. Back	5	1 0	141 ⅄	21·96	176
D	Cobham (Leigh Hill House)	J. Macaulay, Esq.	5	0 7	79	20·76	156
	Epsom	The Meteor. Council	...	...	...	25·46	162
D	Purley (Tudor Cot.)	F. C. Bayard, Esq.	5	1 0	216 ⅄	27·42	208
D	,, (Reedham)	,, ,, ,,	5	1 0	375	25·32	179
D	Bagshot (Collingwood)	Mr. J. Bryan	5	1 0	396 ⅄	24·34	174
D	Chobham	H. Horncastle, Esq.	5	1 0	90 T	21·22	172
	,,	,, ,, ,,	5	3 8	90	21·29	...
D	Chertsey (Ottershaw)	R. H. Otter, Esq.	5	1 0	200 T	21·90	212
D	Weybridge Heath (Netherfield)	C. H. Parkes, Esq.	5	1 0	160	21·19	161
D	,, ,, (Oakfield)	H. Yool, Esq.	5	1 0	107 ⅄	21·36	178
	,, (St. George's Lodge)	Mrs. Smith	5	1 9	...	20·74	...
	,, (Church Street)	M. H. Yool, Esq.	5	1 0	55 ⅄	21·22	...
	Walton-on-Thames (Hersham)	W. H. Dines, Esq.	8	4 0	55 ⅄	20·97	157
D	Addington (Hares Bank)	F. C. Bayard, Esq.	8	1 0	331 ⅄	23·56	186
D	,, (Park Farm)	,, ,, ,,	5	1 0	268 ⅄	22·90	172
D	,, Hills	,, ,, ,,	8	0 9	473 ⅄	24·00	176
D	Wallington	,, ,, ,,	5	4 1	157 ⅄	23·76	181

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
SURREY—(*con.*)						
†Sutton (Mulgrave Road)	W. Goode, Esq.	5	5 6	230 ⅄	24·29	...
,, (Grange Road)	F. C. Bayard, Esq.	5	1 6	230	22·64	...
Carshalton (The Wrythe)	J. W. Manley, Esq.	5	4 10	107	21·95	168
Beddington	The Royal Meteor. Soc.	5	1 0	120	22·91	175
D Croydon (Waddon House)	P. Crowley, Esq.	5	1 0	156 ⅄	22·03	172
D ,, (The Whitgift)	A. E. Watson, Esq.	5	1 0	191 ⅄	23·30	186
D ,, (Limes Road)	G. Corden, Esq.	5	1 0	195	21·56	173
D ,,	Baldwin Latham Esq CE	8	1 0	205	23·61	188
D ,, (Brimstone Sew. Works)	F. C. Bayard, Esq.	5	1 0	130 ⅄	20·44	156
D*† ,, (Addiscombe)	E. Mawley, Esq.	8	0 9	202 ⅄	22·88	192
D ,, (,, Havelock Rd.)	F. C. Bayard, Esq.	8	1 0	205	23·58	184
D Chertsey (Long Cross)	C. H. Berners, Esq.	8	1 9	168 T	22·43	164
D Walton-on-Thames (Clevelan dLo	A. H. Hall, Esq.	5	1 0	51 T	19·91	178
D Surbiton (Seething Wells)	R. Hack, Esq., C.E.	10	0 6	25	19·45	154
D Marden Park	F. C. Bayard, Esq.	5	1 0	471	26·24	188
D East Molesey (Palace Road)	Mrs. Jenkyns	8	6 5	37	20·97	166
D Kingston Sewage Works	F. C. Bayard, Esq.	5	1 0	25	22·74	158
D Wimbledon (Mount Ararat)	T. Devas, Esq.	12	3 0	157 T	21·43	167
D ,, (Raynes Park)	F. C. Bayard, Esq.	5	1 0	47	21·93	201
D ,, (Sewage Works)	,, ,, ,,	5	1 0	58 ⅄	20·89	171
D West Norwood	W. Marriott, Esq.	8	1 0	221	22·61	171
Egham (Cooper's Hill)	The Meteor. Council	8	1 1	280	23·32	195
D Richmond (Ormond Lodge)	J. T. Billett, Esq.	5	0 9	51	22·35	171
D Kew Observatory	The Kew Committee	11	1 9	19 ⅄	21·22	167
Brixton (Acre Lane)	The Meteor. Council	8	1 0	77 T	22·78	172
D Battersea Creek	London County Council	8	27 2	41 ⅄	21·26	125
D Vauxhall Cross (Wandsworth Rd.)	,, ,, ,,	8	30 9	48 ⅄	18·05	149
KENT.						
Dungeness	The Meteor. Council	8	...	...	22·44	167
D Hawkhurst (Sandhurst Rec) *Gard.*	Rev. G. Ridout	5	1 3	208 ⅄	28·36	141
D ,, (,, ,,) *Lawn*	,, ,,	5	1 3	206 ⅄	27·83	141
Appledore (Snargate)	J. Ellis Mace, Esq.	5	1 0	9	23·74	...
Rolvenden (Hole Park)	A. Curteis Neve, Esq.	5	1 0	220	28·23	168
Tenterden (Summerhill)	Rev. A. Wilkin	12	1 0	149 ⅄	25·85	156
Benenden Vicarage	Rev. Canon Joy	8	1 6	330	24·64	...
,, (East End)	J. Ellis Mace, Esq.	8	1 5	193 ⅄	27·73	...
D Tenterden	,, ,, ,,	8	1 5	190 ⅄	25·81	203
,, ... *Snowdon*	,, ,, ,,	8	1 5	190 ⅄	25·45	...
,, (Little Westwell)	Mr. W. Hilder	5	1 0	140	25·78	...
,, (Ashbourne)	A. Pinyon, Esq.	5	2 8	45 T	25·02	...
D†Hythe	H. B. Mackeson, Esq.	8	0 6	12 T	26·58	187
† ,, (Hillhurst Farm)	G. F. Deedes, Esq.	5	2 0	280 T	26·87	163
Cranbrook (Swattenden)	Miss Appach	8	1 2	350 T	26·68	172
† ,, (Hartley)	G. Pile, Esq.	5	4 0	405 T	28·38	189
D Folkestone (Dover Road)	Mr. Goodliffe	5	...	...	27·18	188
,, (Capel Lodge)	E. Norton, Esq., M.D.	5	1 0	470 T	28·57	180
†Hythe (Paddlesworth)	Mr. R. Dixon	8	1 0	608 ⅄	34·17	...

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1890	Days on which .01 or more fell.
			ft. in.	feet.	inches.	
KENT—(*con.*)						
D Gowdhurst Vicarage	Rev. J. S. Clarke	5	1 0	410 T	22·63	187
D† Dover (Pencester Street)	H. J. Poulter, Esq.	5	4 0	32	26·11	176
,, (Randolph Gardens)	Capt. Parker, R.N.	5	1 6	70	27·92	...
D† Acrise (School Ho.)	G. C. Woollett, Esq.	8	1 0	504 ⅄	35·30	219
D Tunbridge Wells (Camden Park)	J. Weston, Esq.	5	0 9	424 ⅄	28·14	214
,, ,, (Bredbury)	F. G. Smart, Esq.	5	1 0	415	29·41	187
D ,, ,, (Ferndale)	A. Keene, Esq.	8	1 0	370 T	28·76	184
D Cranbrook (Camden Lodge)	Mr. A. Habbitts	5	1 0	276 T	27·02	162
D Ashford (Bethersden)	W. H. Mold, Esq.	5	4 0	112 ⅄	24·61	173
D ,, (Beavor Green)	T. Nickalls, Esq.	5	1 0	155 T	27·61	195
D Tunbridge Wells (Etherton Hill)	E. W. Winton, Esq.	5	1 5	276 ⅄	24·59	130
D ,, ,, (Pembury)	W. Brentnall, Esq. C.E.	8	1 8	181 ⅄	24·64	156
Tunbridge (Penshurst Place)	The Hon. H. Sidney	5	0 10	115 T	27·92	...
D ,, (,, Park)	Mr. J. M. Sturgess	5	0 4	265 T	28·15	166
D ,, (St. Mary's)	W. C. Punnett, Esq.	5	1 6	96 ⅄	27·54	156
,, (,, ,,) *Snowdon*	,, ,, ,,	5	1 0	96 ⅄	27·19	155
,, (,, ,,) M	,, ,, ,,	8	4 0	98 ⅄	27·09	...
Shepherdswell (Hazlingdane)	F. A. Mackinnon, Esq.	8	0 8	500	26·97	...
D Ashford (Pluckley)	Mr. F. Kingsnorth	5	5 0	120 T	22·33	178
D ,, (Westwell)	Rev. H. H. D'Ombrain	5	1 0	272 ⅄	27·93	143
Edenbridge (Falconhurst)	J. G. Talbot, Esq., M.P.	5	1 0	300	29·35	114
D Lower Walmer	Mr. H. R. L. Botting	5	1 4	20	22·47	146
D† Maidstone (Hunton Court)	Mr. P. Goddard	8	0 6	80 T	24·27	151
D ,, (Linton)	Mr. C. Pratt	5	3 2	...	23·38	161
,, (,, Park)	,, ,,	5	1 0	...	24·95	174
D ,, (Lower Tovil)	Lawrence Green, Esq.	5	1 0	30 L	25·43	157
D ,, (Mote Park)	Mr. C. Davies	10	3 6	95 ?	23·91	173
D ,, (Mount House)	C. A. Case, Esq.	5	1 0	170 ?	26·80	172
D ,, (Hospital)	M. A. Adams, Esq.	5	0 8	200	24·34	128
D ,, (Debtling)	R. Cooke, Esq.	5	1 2	330 T	28·60	201
Sheldwich	Rev. B. S. Malden	5	1 0	250 T	29·55	163
D† Selling (Harefield)	E. Neame, Esq.	5	2 6	217 T	28·26	179
D Canterbury (Burgate Street)	B. Rigden, Esq.	5	9 6	58 ⅄	24·52	137
,, (Harbledown)	Miss Metcalfe	5	1 6	165 ⅄	23·74	160
D ,, (Sewage Works)	F. Baker, Esq., C.E.	5	0 7	18 ⅄	24·61	185
†Seven Oaks (River Hill)	J. T. Rogers, Esq.	8	3 6	535 ⅄	27·23	114
D ,, (Clare Bank)	J. M. Clabon, Esq	5	4 0	540 T	30·06	189
D ,, (Purleigh)	W. W. Wagstaffe, Esq.	6	1 5	330	30·44	175
D† ,, (Riverhead Vic.)	Rev. J. M. B. Murdoch	5	0 6	300 T	25·05	151
,, (Chevening Gardens)	Mr. C. Sutton	5	1 0	360	27·98	...
Aylesford (Preston Hall)	Mr. A. Waterman	5	1 6	80	23·48	...
D Sittingbourne (Sharsted Court)	Faunce de Laune, Esq.	5	1 0	276 T	26·03	153
D Lynsted (The Batteries)	R. M. Mercer, Esq.	5	1 0	140	26·08	160
Ospringe (Lorenden)	W. C. Stunt, Esq.	5	1 3	180 ?	23·69	138
Knockholt (Kent Waterworks)	F. C. Bayard, Esq.	...	...	...	26·92	...
D Keston (Bradfield)	A. Hill, Esq.	5	1 0	350 T	23·39	192
D ,, (Heathfield)	Miss Holland	5	0 6	420 T	25·84	219
,, (,,) M	,, ,,	5	0 6	420 T	25·65	...

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1890	Days on which .01 or more fell
				ft. in.	feet.	inches.	
	KENT—(*con.*)						
D	Keston Tower	G. Buchanan, Esq., C.E.	8	0 11	351 T	24·43	167
D	Birchington	E. S. Lendon, Esq	5	1 0	45	25·25	127
	Herne Bay (Eddington)	W. Hawksworth, Esq.	5	1 0	4?	22·19	...
D	Reculver (Brook)	A. Collard, Esq.	5	6 3	40	21·03	155
D	Hayes (Layham's Farm)	W. Ashcroft, Esq.	5	1 0	500	26·98	174
D	,, Common (The Warren)	Miss Akers	5	1 0	296	23·40	201
D	Orpington (Kent Waterworks)	F. C. Bayard, Esq.	5	1 0	220	21·86	151
D	Farningham Hill	,, ,, ,,	5	3 0	300	21·77	195
D	Rochester (Knights Place)	J. Pye, Esq.	5	2 6	320	25·81	176
D	Margate (Renfrew Villa)	T. Twyman, Esq.	5	1 0	79 T	23·34	171
D	,, (Apsley House)	J. Stokes, Esq.	5	1 0	84 L	22·67	152
D	,, (,, ,,)	,, ,,	5	1 0	84 L	22·53	152
D	Sheppey (Greenborough)	R. M. Mercer, Esq.	5	2 0	...	22·99	115
D	,, (Leysdown)	Rev. A. Farbrother	5	1 2	47	21·74	158
	Frindsbury (Manor Farm)	F. Baker, Esq.	5	1 0	100	22·00	...
	Bickley (Highfield)	J. Batten, Esq.	5	1 2	295	24·43	168
	Chislehurst (Abbey Lodge)	Col. Silver	5	1 5	...	22·17	126
D	,, (The Chestnuts)	J. B. Snell, Esq.	5	1 0	325 T	21·68	178
D	Wilmington (Kent Waterworks)	F. C. Bayard, Esq.	5	1 0	25	20·11	184
D†	Beckenham (Foxgrove)	Percy Bicknell, Esq.	5	0 6	142 ⊼	21·06	164
D†	,, (,,)	,, ,, ,,	5	4 0	145 ⊼	20·27	154
D	,, (,, Road)	C. S. Pringle, Esq.	8	1 0	147	21·49	161
	Sidcup (Hatherley Road)	L. Burrell, Esq.	5	1 2	350	21·36	...
D	Rochester (Abbot's Court, Hoo.)	Warwick Stunt, Esq.	5	1 0	10	22·38	183
D	Sydenham (Longton Grove)	F. C. Bayard, Esq.	8	4 6	220 T	24·14	160
D	Forest Hill (Newfield House)	,, ,, ,,	5	1 0	220	21·19	153
D	,, (The Nurseries)	Messrs. J. Carter & Co.	5	0 5	...	21·56	132
D	,, (Barr Beacon)	J. W. Restler, Esq., C.E.	5	1 0	344 ⊼	22·04	171
D	Gravesend (Park Place)	Mrs. Walker	5	1 0	24?	17·66	156
D	Rochester (Cooling Castle)	W. Wood, Esq.	5	3 0	10	20·30	140
D	,, (Hoo St. Mary)	H. Pye, Junr., Esq.	5	5 6	146 T	21·73	172
D	Eltham (Victoria Road)	Capt. M. S. Richardson	5	0 8	205 T	22·88	191
	Lewisham (Hither Green)	E. J. C. Smith, Esq.	5	1 0	...	19·90	...
	Blackheath	J. Glaisher, Esq., F.R.S.	8	1 0	150	21·59	158
	,, (Westcombe Park Rd.)	Rev. W. H. R. Soames	8	1 4	120	20·96	...
	,, Park (Elmsdale)	C. Lethbridge, Esq.	5	0 11	90	20·48	198
	Greenwich (Royal Observatory)	W. H. Christie, Esq. F.R.S	8	0 5	155 T	21·86	162
D	Deptford (Kent Waterworks)	F. C. Bayard, Esq.	5	1 0	20	20·83	158
D	,, (Pumping Station)	London County Council	10	1 6	15	24·73	164
D	Woolwich (Powis Street)	Mr. J. G. Waller	5	30 0	65	21·32	177
	Erith (Crossness)	London County Council	14	1 0	16 ⊼	20·24	163
	,, (,,)	,, ,, ,,	14	1 0	24 ⊼	19·98	163
	WEST SUSSEX.						
D	Bognor (Lidsey Lodge)	H. Neale, Esq.	8	1 2	...	24·05	148
	Littlehampton (Surrey House)	G. Neame, Esq.	5	1 8	20 T	23·33	...
D	Worthing (Heene)	W. J. Harris, Esq.	8	1 0	34 ⊼	22·84	149
	,, (,,)	,, ,,	8	1 0	35 ⊼	23·02	...

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground.	Height Above Sea Level	Depth of Rain. 1890	Days on which .01 or more fell
			ft. in.	feet.	inches.	
WEST SUSSEX—(*con.*)						
D Arundel (Yapton)	W. A. Hounsom, Esq..	5	1 0	24 ⅄	23·48	154
,, (,, Drove Farm).	,, ,, ,, ...	5	1 0	14 T	22·96	157
Angmering	Rev. J. B. Orme.....	5	1 3	...	23·91	...
Chichester (WestgateMeadow)...	Dr. Tyacke.....	8	0 6	40	23·29	135
D Arundel (Clapham Rectory) ...	Rev. A. H. S. Barwell	5	1 0	150 T	25·89	185
,, (Patching)	J. Drewitt, Esq.....	5	1 0	180	24·93	167
,, (,,)	Mrs. Joad	5	0 10	130 T	23·04	185
D ,, (The Parade)	R. Holmes, Esq.	8	3 1	75	25·72	143
,, (Dale Park)	Mr. E. Sandford	5	0 11	320	26·29	...
Funtington (Ratham)	W. Jeffery, Esq.	5	0 3	18 ?	23·03	130
Bramber (Maudlin)	Mr. H. J. Hide	5	1 0	80	26·03	123
D Walderton [Emsworth]	G. H. Bedford, Esq. ...	5	1 0	30 B	26·62	125
D†Steyning.....	Col. Ingram	5	1 0	80 T	26·88	119
Chichester (Eartham House) ...	Sir P. Milbanke, Bt....	3	4 6	316 ⅄	22·91	...
,, (Selhurst Park)	C. O. Newman, Esq....	5	...	300 T	28·04	144
D ,, (West Dean)	Mr. G. Broomfield.....	5	1 6	190 T	32·47	154
,, (Singleton Rectory)...	Rev. F. A. Bowles.....	5	1 0	240	29·65	...
† ,, (Chilgrove)	J. W. Woods, Esq. ...	5	0 6	284 T	29·33	...
D Compton [Petersfield]	Rev. H. M. Langdale...	5	1 0	255 ⅄	31·77	183
†Petworth Rectory	Rev. C. Holland.....	5	4 0	180 ⅄	29·30	139
Cowfold (The Laurels)	Mr. S. Ford	6	1 6	273	25·31	...
Midhurst (Lynch Farm)	G. Eames, Esq.....	5	0 6	160 T	29·79	...
Horsham (Bourne Hill).....	F. W. Pigott, Esq.....	5	1 0	250 T	26·29	144
,, (Manor House)	H. Padwick, Esq.	8	0 10	140 T	25·87	143
EAST SUSSEX.						
Beachy Head ..... M	Miss Brodie Hall	5	1 0	515 T	23·70	...
,, ,, ... M	,, ,, ...	5	1 0	495 T	25·26	...
D Eastbourne (East Dean)	E. W. Adamson, Esq..	5	1 0	180	25·84	154
,, (Wilmington Square)	R. Sheward, Esq.	8	0 6	39	31·37	154
D† ,, (Osborne House) ...	Miss Brodie Hall	5	1 0	12 T	28·78	170
D† ,, (The Gore)	,, ,, ,, ...	5	1 0	85 T	28·69	154
D† ,, (Cemetery)	,, ,, ,, ...	5	4 0	160 ⅄	28·94	157
†Brighton (Kemp Town)	Mr. Wyatt.....	5	1 0	82 T	22·95	155
D† ,, (Old Steine)	Dr. Newsholme	5	0 8	32 T	23·62	141
† ,, (Blatchington Road) ...	Mr. J. Park	8	0 6	55 T	24·23	...
D ,, (Prestonville Road) ...	H. Phillips, Esq.	5	1 0	185 T	24·24	169
,, (W.W.GoldstoneBotm).	J. Baker, Esq.	5	0 10	140 ⅄	24·56	...
St. Leonards (London Road) ...	The Meteor. Council ...	5	1 0	166 T	29·11	179
D ,, (The Grove)	W. B. Young, Esq. ...	5	1 1	110 T	27·67	177
D†Hastings (Buckshole).....	P. H. Palmer, Esq.....	8	0 8	106	27·13	162
D Hailsham.....	Rev. F. Clyde Harvey..	5	1 0	105	28·40	135
D†Falmer.....	R. R. Verrall, Esq. ...	5	3 0	312 ⅄	30·16	142
D Lewes (Iford).....	A Hillman, Esq.	5	1 0	33 T	29·52	178
D† ,, (Glynde Place)	Mr. W. McLeod.....	5	4 6	49 T	30·17	165
D ,, (Bedford Lodge).....	Mrs. Kemp.....	5	1 0	100 T	25·45	180
D ,, (Southmalling)	Miss M. H. Rickman...	5	0 10	40 ⅄	23·03	172
†Hastings (HighBeechHollington)	Col. Lewis	5	1 0	320 T	26·00	186

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height above Ground.	Rain Gauge. Height above Sea Level	Depth of Rain. 1890	Days on which .01 or more fell.
			ft. in.	feet.	inches.	
EAST SUSSEX—(*con.*)						
Lewes (Conyborough Park)	Lord Monk Bretton ..	...	...	...	33·88	...
D Hurstpierpoint (Danny Park)	Mr. J. Bunney	...	1 3	180	29·43	131
D Winchelsea (The Friars)	Miss Stileman..	5	1 2	115 T	23·33	149
Battle (Whatlington)	F. Gripper, Esq.	5	1 3	...	29·85	180
D Warbleton (The Rectory)	Rev. R. G. Penny	5	1 1	182	29·80	188
†Waldron (Heatherden House)	J. G. Boucher, Esq.	5	1 3	476	31·44	150
† ,, (Bryckden)	J. Graham, Esq., M.D.	5	1 0	320 ⅄	30·53	...
† ,, (,,)	,, ,, ,,	8	1 0	320 ⅄	30·53	...
D Burgess Hill (Prescott)	W. T. Reynolds, Esq..	5	1 0	...	26·42	149
D Newick (Ketches)	Capt. G. Ruck Keene, RN	8	0 7	133 T	24·86	132
,, (Beechlands)	T. St Leger Blaauw, Esq.	5	1 1	160 T	29·44	140
D Uckfield House	Miss L. Day	8	0 8	200 B	27·04	181
D Cross in Hand (Montpellier)	A. Brown, Esq.	5	1 0	475	33·71	187
D Haywards Heath	C. E. Saunders, Esq. MD	5	1 1	281	24·73	141
Buxted (Strawberry Hall)	C. Rintoul, Esq.	...	...	170 ?	26·05	...
D†Maresfield (Forest Lodge)	Capt. W. Noble	8	1 2	247 ⅄	29·22	232
D Cuckfield (Borde Hill House)	Mr. R. Inglis	5	3 0	270 B	26·80	165
,, (Workhouse)	The Meteor. Council	...	...	...	24·85	169
D†Mayfield Vicarage	Rev. H. T. M. Kirby...	8	0 8	425 T	28·86	171
D†Crowborough (The Observatory)	C. L. Prince, Esq.	8	0 8	770 ⅄	31·53	178
D Balcombe Place	Mr. Warren	8	1 3	289 T	28·96	184
D ,, (Highley Manor)	R. C. Nichols, Esq.	8	1 6	422 ⅄	28·63	135
D Ticehurst	Mr. Backhouse	8	4 9	423 ⅄	27·77	118
D Wadhurst (Lower Cousley Wood)	F. Wilkin, Esq.	5	1 0	416 ⅄	25·74	173
Frant (Eridge Castle)	Mr. J. Rust	5	1 0	400	29·35	...
D Withyham (Leyswood)	Mr. T. Moorhouse	8	1 4	420	27·44	149
Forest Row (Ashdown Cottage)	H. J. Slack, Esq.	8	4 2	386 B	26·38	...
Worth (South Hill)	P. E. Ravenshaw, Esq.	5	1 6	558 T	32·39	186
,, Rectory (*East gauge*)	Rev. G. W. Banks	5	1 10	300 ⅄	31·22	179
D East Grinstead (Old Stone House)	P. E. Wallis, Esq.	5	4 0	448 ⅄	31·18	160
D ,, ,, Station	Mr. G. Mitchell	8	2 2	...	29·59	187
,, ,, (Halsford Park)	W. V. K. Stenning, Esq.	5	1 3	365 ⅄	31·07	163
HAMPSHIRE.						
ISLE OF WIGHT.						
Ventnor (Consumption Hospital)	The Royal Meteor. Soc.	5	1 0	75 T	25·45	156
Shanklin (Bondi)	A. Parbury, Esq.	5	1 0	150	28·57	125
Sandown (Lake)	W. E. Green, Esq	5	1 0	105	25·68	...
Brading	Rev. E. Summers	5	1 6	60	22·40	...
Totland Bay (Wilmington)	J. Dover, Esq.	5	1 0	60?	23·67	165
D Newport (Lugley House)	Rev. E. W. Watts	5	1 0	...	26·31	153
D Yarmouth (National School)	Mr. F. C. Spray	5	1 0	8	22·52	152
Ryde (Thornbrough)	Col. Clarke	5	1 0	143 T	28·82	...
D ,, (Town Hall)	F. Newman, Esq.	8	1 0	83 ⅄	25·75	175
Wootton (Fernhill)	F. Brodie, Esq.	8	0 6	118 T	26·44	...
D†Osborne (Newbarn Cottage)	J. R. Mann, Esq.	8	0 8	172 ⅄	24·61	151
D West Cowes (Holmwood)	C. T. Maw, Esq.	8	1 6	40 T	23·07	145
Hurst Castle	The Meteor. Council	8	0 11	9	24·75	167

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1890 inches.	Days on which ·01 or more fell.
	HAMPSHIRE—(*con.*)							
D	Bournemouth (Wellington House)	Messrs. Primavesi Bros	5	1	0	100 T	25·95	150
	Christchurch (South Bourne) ...	Dr. Compton	5	1	0	91	22·16	145
D	,, (Mudeford)	F. H. D. Eyre, Esq. ...	5	0	3	15 L	22·94	169
D	,, (Kenilworth)	J. H. Bridgford, Esq. .	5	1	2	100 ?	26·22	175
D	Lymington (Pennington)	Miss E. S. Lomer	5	0	9	96 T	25·92	159
D	Portsmouth (Fort Cumberland)..	P. Murch, Esq. C.E. ...	8	1	0	24	17·51	120
D	,, ...	Dr. Mumby	5	1	0	18	22·65	170
	South Hayling	F. Padwick, Esq.	5	1	0	10	18·86	...
	Porchester (Noel Cottage).....	Miss Montgomery Frost	...	1	0	...	23·74	...
D	Portsmouth (Closewood, Cosham)	O. Philpott, Esq.	5	0	9	125 T	23·85	155
D	Havant (Farlington)	H. R. Smith, Esq., C.E.	5	1	0	77 T	21·45	160
	,, (,,) ..... M	,, ,, ,, ...	5	1	0	77 T	21·46	...
D	,, ...	,, ,, ,, ...	5	1	0	25 T	21·48	123
	,, ... M	,, ,, ,, ...	5	1	0	25 T	21·62	...
D	Emsworth (Redlands)	F. Jacomb Hood, Esq.	5	1	0	90 T	22·34	154
D	Southampton (Cadland)	J. Laurie, Esq.	8	4	6	52 T	27·30	169
D	,, (Netley)	Prof. J. Lane Notter...	8	0	5	37 ⅄	28·15	174
D	,, (,, Lake Ho.)	Col. Pennington	8	1	0	54 ⅄	26·78	179
	,, (Ordnance Surv. Off.)	Col. Sir C. Wilson, FRS.	5	1	0	79 ⅄	26·41	162
D	Wickham (West Lodge)	Rev Stanhope Rashleigh	5	0	11	315 T	27·10	173
D	Botley (Hall Court)	Adml. Murray-Aynsley	8	2	0	105	26·01	150
D	Horndean (St. Catherines)	Miss Barnes	8	1	7	417 T	27·75	193
D	Idsworth House.....	Mr. N. F. Fuller	5	1	0	300 T	29·83	157
	Southampton (Millbrook)	A. Spooner, Esq.	5	1	1	10	28·76	...
	,, (Westend).....	C. Purrott, Esq.	5	1	6	244 T	*28·35*	...
D*	,, (Highfield) *Snowdon*	Rev. H. Garrett.....	5	1	0	130 ⅄	26·90	172
	,, (,,) ..... M	,, ,, ,, ...	5	1	0	130 ⅄	27·16	...
D†	,, (Red Lodge)	R. C. Hankinson, Esq..	5	0	6	206	25·77	152
	,, (,, ,,) ..... M	,, ,, ,, ...	5	4	0	200 T	26·77	...
D	Fordingbridge (Oaklands)	T. Westlake, Esq.....	8	1	0	135 T	26·62	135
	Bishops Waltham (Swanmore House)	W. H. Myers, Esq.....	8	1	0	390 T	27·17	130
	Droxford (Fir Hill)	Rev. S. King	5	1	0	212	26·26	181
	Fordingbridge (Wood Green) . .	H. Hinxman, Esq.....	5	1	2	140 ⅄	26·74	...
	Petersfield (Liss Place)	F. Coryton, Esq.....	7	0	7	250 ⅄	26·50	...
D	Alresford (Cheriton Rectory) ...	Rev. A. Orr	5	2	0	240	26·59	145
D	,, (Ovington)	Rev. A. H. Stocker ...	5	1	0	221 T	28·03	179
	,, House	Mrs. Wood	5	1	6	238 ⅄	26·97	148
D	Alton (East Tisted Rectory).....	Rev. F. Howlett	5	1	1	420 ⅄	30·21	173
D	,, (The Wakes, Selborne) ...	General Parr	5	5	3	400	27·37	149
D	Winchester (Harestock)	Col. Knight	5	1	0	302 ⅄	28·66	188
	Liphook (White Hill Chase) ...	Col. R. H. Maude	5	1	0	300 ⅄	28·84	117
	,, (Bramshott Rectory).....	Mr. W. Steptoe	5	1	0	414	29·00	...
D	Alresford (Swarraton Rectory)...	Rev. W. L. W. Eyre...	5	1	0	310 ⅄	26·53	165
	Alton (Thedden Grange)	J. G. Wood, Esq.	8	1	3	600 T	28·58	...
D†	,, (Ashdell).....	F. Crowley, Esq.	8	3	6	433 ⅄	26·17	151
	,, (Eagles Nest)	,, ,, ...	5	52	4	505	17·02	...
	Micheldever (Northbrook)	J. A. Caird, Esq.	5	1	1	270 T	28·69	...
D	Whitchurch (Long Parish)	C. Durnford, Esq.....	...	...		...	26·29	162

DIVISION II.—SOUTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell
			ft. in.	feet.	inches.	
HAMPSHIRE—(*con.*)						
Andover (The Knoll)	G. H. Westbury, Esq..	6	0 10	196 T	25·68	183
Tedworth House [Ludgershall]..	Mr. G. A. Inglefield ...	8	1 8	357 T	27·19	...
Aldershot	D. T. Livesey, Esq. ...	5	1 0	250 ⅄	24·91	145
D Basingstoke (Chapel Hill)	G. Stephens, Esq.	5	1 0	328 T	22·34	178
D Fleet (Claremont House)	Miss L. Pasley	8	2 0	280	25·61	145
D Basingstoke (Monk Sherborne)..	Rev. Canon Willes ...	5	1 6	314 ⅄	24·59	122
D† ,, (Sherborne St. John)	Rev. D. W. Chute.....	5	1 2	267 T	24·02	185
Farnborough (The Grange)	Major Holt	5	1 0	232 T	25·75	178
Kingsclere (Ramsdale)	Miss A. F. Fuller	5	1 0	341 ⅄	21·60	127
Hartley Wintney	Mr. W. G. Machin ...	5	1 2	210	24·32	142
,, Grange	W. Walkinshaw, Esq..	5	1 0	220 ⅄	22·60	...
,, Wespall	Rev. J. C. Keate.....	8	0 9	233 ⅄	20·89	...
Bramley	Rev. C. Eddy.....	8	0 9	230 T	22·20	...
D†Strathfield Turgiss	Rev. C. H. Griffith.....	5	3 0	200 ⅄	22·26	185
Heckfield (Park Corner)	J. Martineau, Esq.	5	1 2	257	21·16	...
BERKS.						
D Sandhurst Lodge	Sir W. J. Farrer	8	2 9	260	23·08	161
Newbury (Donnington Sq.)	W. J. Cowper, Esq. ...	5	3 6	286 T	23·05	166
D Wokingham (Wellington Coll.)..	S. A. Saunder, Esq. ...	5	1 0	283 ⅄	23·16	176
Hungerford (Denford Park)	General Cherry	5	1 2	430 T	24·58	190
Old Windsor (Friary Gardens)...	Mr. H. Tomlinson	5	0 10	100	22·73	...
Reading (Englefield)	R. Benyon, Esq.	5	1 1	...	20·98	137
D† ,, (Russell Street)	Dr. Workman.....	5	2 0	154 ⅄	21·28	162
D ,, (Forbury Gardens)	A. W. Parry, Esq., C.E..	5	1 5	145 ⅄	21·73	176
,, (East Thorpe)	A. Palmer, Esq.....	5	3 0	157 T	23·06	162
D Twyford (Hurst Grove)	Mrs. Finch	5	1 0	...	21·42	151
D Newbury (Welford Park)	Mr. C. Ross.....	5	1 0	335 ⅄	23·38	173
,, (,, ,,)	,, ,, ...	5	1 0	341 T	23·75	173
D ,, (Weston)	R. Osmond, Esq.	5	0 8	338 T	25·47	167
D Yattendon	A. Waterhouse, Esq. R.A.	5	1 0	450	21·10	167
D Lambourne (The Laburnums) ...	R. C. Mawley, Esq. ...	5	0 9	415 T	22·24	182
D Maidenhead (Lowood)	Major-Gen. Davies ...	8	1 0	167 T	22·18	168
D ,, (Castle Hill House)	F. C. Young, Esq.....	6	1 0	163	25·14	203
D ,, (Cookham Vic.) ...	Rev. R. W. Rogers ...	5	1 3	90 T	21·83	146
Shrivenham (Ashbury Vic.)	Rev. H. Miller	5	1 0	479 ⅄	24·07	...
D Wantage (Letcombe Regis)	S. W. Silver, Esq.....	5	0 9	...	21·57	143
Wallingford Castle	J. Kirby Hedges, Esq..	5	0 9	175 ⅄	19·50	162
Little Wittenham Rectory	Rev. Percy Burd	5	1 0	187 T	17·78	144
D Long Wittenham (Manor Ho.)...	Capt. Clutterbuck, R.N.	12	1 0	165 T	18·95	130
,, ,, (Lovegrove's Cott.)	Rev. F. C. Clutterbuck	5	1 0	165	19·61	130
Faringdon (The Elms)	W. Dundas, Esq.	5	1 0	340 T	22·61	175

DIVISION III.—SOUTH MIDLAND COUNTIES.

HERTS.						
D Southgate (The Lawns)	G. A. Church, Esq. ...	5	0 6	240 T	24·07	188
D†Rickmansworth (Moor Park)	Rt. Hon. Lord Ebury ..	5	2 0	340	27·68	184

DIVISION III.—SOUTH MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
HERTS—(*con.*)						
D Elstree (Aldenham House)	Mr. E. Beckett	10	4 9	...	19·58	155
D Watford (Kytes)	Mrs. Horsman	...	...	239	21·33	170
Barnet (Gas Works)	J. Hopkinson, Esq. ...	...	...	212	23·39	129
D Cheshunt Old Nurseries.....	Messrs. Paul & Son ...	5	1 0	92 T	22·72	144
D ,, College	Rev. Dr. Reynolds.....	5	1 1	94	23·08	127
D Broxbourne (Stafford House) ...	G. J. Newbery, Esq....	5	1 0	118 T	21·86	192
Hemel Hempstead (Nash Mills)..	Messrs. J Dickinson & Co.	12	3 9	237 T	*21·94*	151
D ,, ,, (Apsley Mills)	,, ,, ,, ...	24	0 9	...	20·60	160
D St. Albans (The Grange)	J. Hopkinson, Esq. ...	5	1 0	380 ⅄	23·29	188
,, (Torrington House) M	Miss E. A. Ormerod ...	5	1 0	271 T	21·62	...
,, (,, ,,) M	,, ,, ,, ...	5	1 0	271 T	21·41	...
† ,, (Gorhambury).....	Rt. Hon. Earl Verulam	6	2 6	425 T	*21·21*	...
D Great Berkhampstead (Rosebank)	E. Mawley, Esq.	8	1 0	401 ⅄	22·28	179
,, ,, (,,) M	,, ,, ...	8	1 0	401 ⅄	22·19	...
D ,, ,, (Fairhill)...	W. B. Hopkins, Esq...	5	1 0	550 T	22·45	184
D ,, ,, (Gt. Gaddesden)	Rev. W. Tyrwhitt Drake	8	1 0	426 ⅄	22·22	176
Hertford (Bayfordbury)	W. C. Baker, Esq.....	8	1 2	250	20·04	176
D ,, (Haileybury College)...	A. A. Lea, Esq.....	5	1 2	250	25·56	186
,, (Marden Hill, Tewin).	R. L. Hoare, Esq.....	5	0 9	255 T	20·73	147
D Tring Vicarage	Rev. W. Quennell	5	1 0	442 T	25·04	182
D ,, (Cowroast)	H. Thomas, Esq., C.E.	10	4 2	345 L	23·76	143
Harpenden (Rothamstead)	Messrs. Lawes & Gilbert	5	0 9	420 T	23·92	169
,, (,,)	,, ,, ,, ...	8	0 9	420 T	23·54	166
D ,, (,,)	,, ,, ,, ..	72X87	0 9	420 T	24·78	177
D Welwyn (Brocket Hall)	Mr. T. Landon	8	1 0	250	22·71	138
D Ware (Red House).....	J. Francis, Esq., C.E..	12	3 0	114 T	19·81	152
D ,, (Fanham's Hall)	Miss Joyce Croft	8	1 0	253 T	20·62	171
D Welwyn Rectory	Rev. Canon Wingfield.	5	0 4	228 T	20·69	155
D ,, (Danesbury)	A. M. Blake, Esq.....	5	0 9	405 T	24·27	170
D ,, (Datchworth Rectory)..	Rev. J. Wardale	5	1 0	386 T	*21·37*	159
D Ware (Much Hadham)	T. W. Mott, Esq.	5	1 0	222 B	23·07	166
D Kensworth [Dunstable]	Miss Jones	5	1 0	630 B	24·16	157
D Bennington Lodge.....	Rev. Dr. Parker.....	5	1 0	408 ⅄	24·39	188
D Buntingford (Hamels Park).....	Mr. E. Wallis	5	1 0	400 T	23·17	135
D† Hitchin (Wratten).....	W. Lucas, Esq.	5	2 1	238 ⅄	20·54	171
,, (The Maples)	W. Hill, Esq.....	8	1 2	220 T	20·48	...
,, (Bancroft).....	L. W. Gatward, Esq...	5	2 0	215	22·63	...
,, (High Down)	J. Pollard, Esq.	5	1 1	422 ⅄	20·23	170
D Buntingford (Throcking Rectory)	Rev. C. W. Harvey ...	5	1 0	484 T	20·73	171
D Stevenage (Weston Manor)	M. R. Pryor, Esq.	5	0 7	480 T	19·12	125
D Royston (Therfield Rectory).....	Rev. J. G. Hale	5	4 3	500 ?	22·85	168
D† ,, ...	H. Wortham, Esq.....	8	0 6	269 ⅄	18·68	146
BUCKINGHAMSHIRE.						
D Slough (Langley)	R. H. Major, Esq.....	8	0 10	85 T	21·39	151
,, (Upton)	G. Bentley, Esq.	5	3 0	90 ⅄	19·49	152
,, (,,)	,, ...	8	...	...	19·29	...
D Taplow Court.....	Mr. W. Williams	8	1 0	217 T	21·48	159

DIVISION III.—SOUTH MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
BUCKINGHAMSHIRE—(*con.*)						
Burnham (The Elms)	G. J. Williams, Esq....	5	3 0	182	20·32	126
Greenlands [Henley-on-Thames]	Rt Hn. W. H. Smith M.P.	8	1 3	116	*24·23*	115
D Great Marlow	J. Ford, Esq.	8	1 3	...	23·90	167
High Wycombe	H. S. Wheeler, Esq....	8	0 9	253 ⅄	19·46	...
Aylesbury (New Road)	J. Copcutt, Esq.	12	1 0	280 T	23·15	...
,, (Waddesdon)	Mr. J. Jaques	8	1 0	360	*23·13*	131
D† Winslow (Addington Manor)	Rt. Hon. Lord Addington	8	1 0	309 ⅄	21·32	186
D† Buckingham (Adstock)	J. E. S. Weston, Esq...	5	0 9	350 T	22·02	160
D Stony Stratford (Thornton)	Mr. W. Sturdy	5	1 6	...	20·75	153
Woburn Sands (Sandymount)	C. P. Stuart, Esq.	5	1 4	...	20·18	171
D Newport Pagnell	R. Littleboy, Esq.	5	2 0	196 T	19·10	158
Olney (Filgrave Rectory)	Rev. J. Tarver	8	0 8	280	19·73	131
OXFORD.						
D Whitchurch Rectory	Rev. J. Slatter	10	1 0	150 ⅄	20·61	173
Henley-on-Thames (Greys)	Rev. N. Pinder	5	1 8	370 T	22·03	...
D ,, ,, ,, (Assenton)	Mr. J. Ratty	5	1 0	281	21·39	160
D Dorchester	Col. Blunt	5	0 6	169	17·04	157
D Abingdon (Culham)	Rev. F. C. Clutterbuck	5	1 0	200 ⅄	19·86	151
D Watlington (Pyrton Manor)	Cecil Hamersley, Esq..	5	1 0	321 T	21·23	166
D Abingdon (Nuneham Park)	E. W. Harcourt, Esq...	8	3 0	280 T	20·46	190
D Oxford (Potlands, Baldon)	Miss Clinkard	5	1 0	288	20·23	184
D† ,, (Mag. Coll. Laboratory)	E. Chapman, Esq.	5	1 0	186 ⅄	17·62	160
,, (,, ,, ,,)	,, ,, ,,	5	33 11	223 ⅄	15·39	...
,, (Radcliffe Observatory)	E. J. Stone, Esq., F.R.S.	8	1 8	210 ⅄	17·78	178
D ,, (,, ,,)	,, ,, ,,	11	2 4	210 ⅄	18·40	138
,, (,, ,,)	,, ,, ,,	10	22 0	230 ⅄	17·42	141
,, (,, ,,)	,, ,, ,,	10	112 0	320 ⅄	11·78	151
D ,, (St. Giles')	A. R. Tawney, Esq. ...	8	1 6	210 ⅄	18·84	186
D ,, (Norham Road)	Rev. C. B. Mount	10	1 2	220 ?	17·43	143
D ,, (Headington Hill)	Miss Davenport	5	1 6	354	20·35	152
D ,, (Elsfield) *New gauge*	H. Parsons, Esq.	5	1 0	330	19·87	182
Stanton St. John's	Miss Thomson	8	1 0	340	20·97	190
,, ,, ,, (Woodperry)	J. Thomson, Esq.	6	1 0	399 T	21·88	177
Chipping Norton (Kingham)	E. Lockwood, Esq. ...	5	4 0	442	21·15	...
D Bicester (Middleton Park)	Mr. B. Hope	5	2 6	380	21·61	200
D ,, (Stratton Audley Pk.)	Colonel Gosling	5	2 4	...	18·12	113
Steeple Aston	B. S. Ogle, Esq.	5	0 6	400 T	21·20	189
D ,, ,, (The Grange)	Adl. Bradshaw, C.B....	8	1 0	400 T	19·60	178
D Banbury (Bloxham Grove)	Rev. G. Warriner	8	3 10	387 ⅄	19·41	141
D ,, (,,)	Col. O. Ommanney ...	8	3 0	400 T	19·67	179
D ,, (Cotefield, Bodicote)	T. E. Cobb, Esq.	8	2 0	383 ⅄	18·94	166
D ,, (Ark House School)	A. J. Beale, Esq.	5	1 0	310	20·53	165
NORTHAMPTON.						
Brackley	Mr. E. Durran	8	6 10	400 T	21·18	108
D Grimsbury [Banbury]	W. H. Hathaway, Esq.	5	1 3	320 T	18·61	154
Thorpe Mandeville [Banbury]	Mr. S. Baines	5	1 0	530	21·69	161

DIVISION III.—SOUTH MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge			Depth of Rain.	Days on which ·01 or more fell.
		Diameter	Height Above Ground	Height Above Sea Level	1890	
			ft. in.	feet.	inches.	
NORTHAMPTON—(*con.*)						
D Towcester (Whittlebury)	W. S. Miller, Esq.	5	1 6	350	22·35	194
D ,,	The late P. Phipps, Esq.	5	1 0	290	21·46	151
,, (Easton Neston)	Mr. E. Slarke	8	1 0	340 T	23·39	151
D Stoke Bruerne Rectory	Rev. W. Wilson	8	1 0	320 T	19·47	151
Blisworth	C. A. Markham, Esq.	...	...	...	19·11	155
D Litchborough	E. Grant, Esq.	5	1 1	500	26·32	192
D Daventry (Fawsley)	Lady Knightley	5	1 0	477 T	22·65	198
D Castle Ashby	R. G. Scriven, Esq.	5	1 0	263 ⅄	19·01	173
D Northampton (Little Houghton)	Mr. J. Brawn	5	2 4	...	18·73	172
D ,, (Hazlewood Road)	H. Terry, Esq.	5	5 0	253	18·36	167
D ,, (Gold Street)	Mr. S. Law	5	6 6	230 ⅄	17·73	168
,, (Elysium Terrace)	C. A. Markham, Esq.	...	...	...	19·23	181
D Great Brington (Althorp House)	C. S. Groom, Esq.	8	3 10	310 ⅄	21·65	187
D Pitsford (Sedgebrooke)	C. A. Markham, Esq.	5	1 0	311 ⅄	19·03	168
,, (,,) M	,, ,, ,,	5	1 0	311 ⅄	18·83	...
D Daventry (Waterloo)	F. F. Rodhouse, Esq.	5	1 3	436 ⅄	22·84	200
D Earls Barton Vicarage	Rev. R. R. Cobbold	5	1 4	280 T	15·81	200
D Holdenby Rectory	Mr. C. Bond	5	2 0	...	21·78	196
Wellingborough (Swanspool)	N. P. Sharman, Esq.	5	0 2	155	18·23	182
D ,, (Croyland Abbey)	E. Sharman, Esq.	5	0 3	...	18·72	189
D Thrapstone (Hargrave)	Rev. R. S. Baker	5	1 0	220 ⅄	17·37	144
D Ravensthorpe (Coton Mill)	G. S. Eunson, Esq.	5	1 0	360	21·87	166
D Kettering	J. Wallis, Esq.	8	1 3	300 T	20·02	149
D ,,	C. W. Lane, Esq.	5	1 0	280	19·68	173
Rothwell	J. More, Esq., M.D.	12	1 2	300	19·59	139
D Oundle (Pilton Rectory)	Rev. F. G. Hodgson	5	1 0	112	19·50	153
,,	J. M. Siddons, Esq.	5	4 6	105 T	17·25	...
D Rockingham Castle	Mr. H. Watt	5	3 0	400 L	20·71	127
Peterborough (Thorpe Hall)	C. I. Strong, Esq.	...	...	...	20·04	...
D Easton [Stamford]	Mr. H. Watkins	5	0 6	271 T	19·66	164
D Maxey Vic. [Market Deeping]	Rev. W. D. Sweeting	5	1 0′	32 ⅄	20·85	185
,, ,, [,, ,,] M	,, ,, ,,	5	1 0	32 ⅄	20·66	...
HUNTS.						
D St. Neots (Waresley Park)	Lady C. Duncombe	5	0 11	190	18·85	115
D Huntingdon (Brampton)	Miss May Bird	5	1 1	...	22·20	164
D Alconbury	Rev. R. Conway	5	1 0	...	18·04	162
Wistow	Rev. Canon Woodruff	5	1 1	39 ⅄	18·23	114
Whittlesea Mere	A. Lunn, Esq.	8	1 6	...	18·35	...
BEDFORD.						
Luton (Pumping Station)	E. J. Lovegrove, Esq., CE	5	1 0	344 T	22·60	165
Ampthill (Silsoe)	H. Trethewy, Esq.	5	1 0	214 T	21·81	...
,, (Wrest Park)	Mr. G. Ford	5	1 1	...	19·54	...
D† Aspley Guise (Oaklands)	E. E. Dymond, Esq.	5	1 0	410 T	18·31	160
Woburn (Experimental Farm)	A. E. Elliott, Esq.	8	3 9	300	16·80	...
D Stotfold [Baldock]	Dr. Swain	5	1 0	220 T	18·48	170
Ampthill	Mr. J. Brown	5	1 0	313 T	18·67	162

DIVISION III.—SOUTH MIDLAND COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1890 inches.	Days on which ·01 or more fell
BEDFORD—(*con.*)							
Ampthill (Maulden)	Mr. S. Street	6	2	0	...	17·34	...
D Woburn (Hulcote Rectory)	Rev. B. Chernocke Smith	5	1	0	310	18·47	141
Biggleswade (Langford)	F. J. Gurney, Esq.	5	1	0	112 T	16·89	139
,, (Old Warden)	Mr. G. R. Allis	8	1	2	...	17·86	149
D Potton (Wrestlingworth)	H. J. King, Esq.	5	1	0	...	18·28	164
Cardington (*Staff gauge*)	Miss McLaren	12	3	6	109	17·79	152
,,	,, ,,	8	0	0	106	18·29	...
D Sandy (The Lodge)	Rt. Hn. A. W. Peel, M.P.	5	1	0	...	18·58	165
Bedford (Western Street)	D. Robie, Esq.	5	0	10	112 T	17·18	148
,, (The Grove)	,, ,,	5	0	8	115	18·31	177
,, (Kimbolton Road)	Col. C. K. Brooke	8	2	0	120 T	17·66	...
,, (St. Peter's Street)	Mr. W. Godfrey	5	1	0	114 T	17·17	...
Tempsford Hall	Col. W. Stuart	5	0	9	80 T	17·43	165
Bedford (Milton Ernest)	F. Newbery, Esq.	5	6	0	170 ?	18·85	111
Podington [Wellingborough]	R. Orlebar, Esq.	5	1	0	256 T	18·09	145
CAMBRIDGE.							
D† Guilden Morden [Royston]	J. G. Johnson, Esq.	5	1	2	106 ⅄	17·02	135
Abington Pigotts [,,]	H. F. Fryer, Esq.	...	0	8	130	18·45	157
Trumpington	F. Parsons, Esq.	6	1	0	...	19·98	150
,, (Gilmerton)	S. Nutter, Esq.	8	0	10	...	17·83	176
Granchester Mill	H. F. Fryer, Esq.	5	5	0	31 ⅄	19·97	...
D Cambridge (Fulbourn Asylum)	Dr. G. E. Crallan	5	0	10	70 ⅄	22·30	124
,, (,, PumpSta.)	W. W. Gray, Esq., C.E.	5	1	0	36 ⅄	18·58	...
D ,, (W. W. Cherryhinton)	,, ,, ,,	5	1	0	35 ⅄	16·74	170
D ,, (Sidney Street)	W. E. Pain, Esq.	8	60	0	92 ⅄	16·17	200
,, (Trinity College)	Dr. J. W. Glaisher, FRS.	8	0	6	40	16·95	166
Hardwicke	Rev. J. S. Brown	5	0	7	...	23·22	144
D† Cambridge Observatory	Professor Adams, F.R.S.	5	1	0	84 ⅄	17·97	160
D ,, ,,	,, ,, ,,	8	1	0	84 ⅄	17·90	160
Quy Hall	Mrs. Francis	5	0	5	...	17·44	145
Papworth Hall	Late Rev. E. Cheere	5	1	0	127 T	18·19	161
D Ely (Stretham)	Mr. J. Housley	9	4	9	13 ⅄	19·44	136
D ,, (,, Ferry)	Mr. C. Wright, Junr.	8	5	0	...	17·49	146
D Chatteris (Aylesby House)	A. H. Ruston, Esq.	8	0	6	45 ?	18·06	142
,, (The Priory)	H. F. Fryer, Esq.	5	0	5	45	17·82	135
,, (Horseway Lock)	A. Lunn, Esq.	8	15	0	...	15·11	145
March	,, ,,	9	2	0	...	20·40	...
Stanground Sluice	,, ,,	8	1	6	...	17·66	109
* March (Stags Holt)	W. C. Little, Esq.	5	1	0	11 T	18·14	...
Upwell (Marmont Priory Lock)	A. Lunn, Esq.	8	1	1	...	16·95	...
,, (Euximoor House)	H. West, jun., Esq.	5	0	8	15 ?	18·83	141
D Thorney (Wryde House)	S. M. Egar, Esq.	5	1	0	11 L	*20·22*	127
D Wisbech (Bank House)	A. Peckover, Esq.	8	0	8	6	19·51	156

DIVISION IV.—EASTERN COUNTIES.

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground.	Height Above Sea Level	Depth of Rain. 1890	Days on which .01 or more fell.
				ft. in.	feet.	inches.	
	ESSEX.						
D	Shoeburyness	The Asst. Super. Expts.	8	7 3	18	20·34	143
D	Southend	C. J. Holthouse, Esq.	5	3 0	110	21·21	150
D	,, (Water Works)	C. S. Bilham, Esq.	8	1 0	112 ⅄	20·99	159
D	Romford (North Ockenden)	Rev. R. T. Crawley	5	1 3	100	22·47	142
	,, (Bulvan)	E. D. Mee, Esq.	5	5 0	37	21·79	...
	Ilford (Great Gearies)	Mr. J. Douglas	5	1 0	120	*19·70*	...
D	Upminster Hall	G. P. Hope, Esq.	5	1 0	120	25·99	194
D	Walthamstow (Forest Road)	F. W. Freir, Esq.	5	1 0	70 T	24·34	148
D	Woodford (Brancepeth House)	Albert Spicer, Esq	5	1 0	...	*23·83*	122
D	,, (The Harts)	Miss Spicer	5	3 6	203 T	26·23	172
D	,, (Hagger Lane)	W.B.Bryan, Esq., C.E.	8	1 0	176 ⅄	21·52	119
D	Billericay (Burghstead Lodge)	General Branfill	5	1 0	310 ⅄	24·02	162
	Brentwood (Sawyer's Hall Farm)	Rogers Field, Esq., C.E.	5	1 0	270 T	25·08	...
D	,, (Dudbrook House)	Mr. W. Dellar	8	1 3	...	28·39	143
	Loughton (High Beech)	W.B. Bryan, Esq., C.E.	8	1 0	376 ⅄	25·97	173
	Maldon (Norton Hall)	C. Clarke, Esq.	5	2 6	130 T	22·83	122
	Waltham Abbey	W. B. Bryan, Esq., C.E.	8	1 0	62	23·86	168
	,, ,, (Gunpr Factory)	Col. W. H. Noble	5	1 6	70	22·21	...
	Epping (The Hemnalls)	J. Nicholl, Esq.	8	0 8	345	?30·69	159
D	Bradwell-on-Sea (Bradwell Hall)	J.C. Chillingworth, Esq.	5	1 1	...	21·37	127
	,, ,, (Down Hall)	R. Page, Esq.	5	1 0	20	22·27	110
D	Chelmsford (Writtle)	E. Rosling, Esq.	5	0 9	140 T	20·81	147
	,, (High Street)	F. Chancellor, Esq.	8	1 0	86 ⅄	21·88	137
	,,	The Royal Meteor. Soc.	...	...	...	22·07	143
	,, (Roxwell)	R. W. Christy, Esq.	5	1 0	180 T	22·01	108
D	West Mersea (Rosebank)	Rev. F. Owston	5	...	35	19·64	182
D	East Mersea Rectory	Rev. F. J. Ball	5	1 0	56 T	23·16	219
	Harlow (Moor Hall)	Mr. W. Monk	5	1 3	240	22·07	128
D	,, (Sheering)	Rev. Canon Hill	5	1 0	214 ⅄	20·97	165
	Witham (Little Braxted Hall)	J. Taber, Esq.	5	1 0	50	22·12	147
	,, (Rivenhall)	Rev. F. B. H. Bridges	5	1 0	138 T	22·56	...
D	Birchanger [Bishops Stortford]	Rev. F. Rowden	8	0 11	329 T	21·72	177
	Colchester (Surrey Villa)	J. C. Hopwood, Esq.	5	1 0	108 T	22·73	141
D	,, (Hill House, Lexden)	S. F. Hurnard, Esq.	5	1 0	90 T	21·65	149
D	,, (,, ,,)	,, ,,	5	0 4	90 T	22·23	150
	Braintree (Bocking, Fennes)	H. S. Tabor, Esq.	5	1 3	240 T	23·09	...
	,, (,, Place)	S. Courtauld, Esq.	8	2 2	212 ⅄	25·45	138
	Earls Colne (Chalkney House)	H. F. Hills, Esq.	5	1 0	180 T	22·56	120
D	Dedham (The Rookery)	W. H. Penrose, Esq.	8	1 0	43	22·91	178
	Langham Rectory	Rev. T. S. Raffles	5	1 0	134	22·12	153
D	Saffron Walden (Newport)	Rev. G. F. Tamplin	5	3 0	200 T	23·75	157
	SUFFOLK.						
	Felixstowe	C. G. Havell, Esq.	8	1 0	65	21·52	168
	Stutton (Alton Hall)	J. South, Esq.	5	1 2	...	22·20	148
	Sudbury (Assington)	P. Gurdon, Esq.	5	4 0	...	22·45	151
D	Ipswich (Woolverstone Park)	C. H. Berners, Esq.	8	4 0	100	17·28	144
D	,, (Orwell Park)	Mr. J. Wallis	8	1 0	60 ⅄	21·56	164

DIVISION IV.—EASTERN COUNTIES—(*continued.*)

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
SUFFOLK—(*con.*)						
D Sudbury (Friars Street)	E. Ransom, Esq.	5	1 7	93 T	23·00	180
D ,, (Newton Road)	J. Alexander, Esq.	5	1 2	130 T	22·94	166
Ipswich (Bishop's Hill)	G.A. Biddell, Esq., C.E.	5	1 0	104 ⅄	21·69	...
D ,, (Clare Lodge)	E. R. Turner, Esq., C.E.	5	1 0	178 T	22·49	165
,, (Playford)	M. Biddell, Esq.	5	2 6	120 T	21·95	...
Lavenham Hall	W. Biddell, Esq., M.P.	5	1 11	220	25·53	...
D Woodbridge (Bank House)	S. Alexander, Esq.	5	1 0	...	23·87	168
D ,, (Co. Asylum Melton)	Dr. Eager	8	1 4	100 ⅄	21·86	149
D ,, (The Cedars, Melton)	W. P. T. Phillips, Esq.	5	...	...	24·46	172
Lavenham (Preston Rectory)	Rev. T. Hewitt	5	1 9	300	26·10	103
D Swilland Vicarage	Rev. J. Wickham	5	1 0	...	21·25	172
D Rendlesham Hall	Rt Hon Lrd. Rendlesham	5	1 9	88 ⅄	23·17	137
D Haverhill (Great Thurlow)	A. Boa, Esq.	5	1 0	241 T	21·06	184
Clare (Stansfield)	J. Slater, Esq.	5	1 0	...	24·66	...
D ,, (Hawkedon Rectory)	Rev. B. P. Oakes	5	3 4	305 ⅄	23·72	171
Ash Bocking Vicarage	Rev. M. B. Cowell	5	7 3	231 T	18·32	144
D Aldborough (Aldringham Ho.)	F. Garrett, Esq.	8	4 5	50 B	20·73	187
D Stowmarket (Wetherden Rec.)	Rev. C. J. Goodhart	8	0 6	185 ⅄	21·32	167
D Bury St. Edmunds (Drinkstone Pk)	Mr. G. Palmer	8	1 2	220 T	21·56	150
D Framlingham (Mount Pleasant)	Mr. R. Whitehead	5	1 2	...	22·86	145
D Bury St. Edmunds (Abbeygate St.)	Mr. F. Summers	5	65 0	...	20·72	144
† ,, ,, (Westley) *old g*	R. Burrell, Esq.	5	1 0	226 ⅄	25·47	146
D ,, ,, (,,)	,, ,,	5	1 0	226 ⅄	24·84	146
,, ,, (Hengrave)	Mr. W. Nichol	5	1 2	91	23·17	...
D Ixworth (Walsham-le-Willows)	Miss M. C. Martineau	5	1 0	...	24·56	162
† ,, (Barningham)	W. Lingwood, Esq.	8	1 0	136 T	20·78	....
D Beccles (Sotterley Hall) *old gauge*	Col. St. J. Barne	5	0 10	...	24·57	193
,, (,, ,, Gardens)	,, ,, ,,	5	0 10	...	23·45	196
,, (The Staith)	Clifford Smith, Esq.	5	4 6	...	20·65	130
†Lowestoft (Carlton Colville)	G. Edwards, Esq., C.E.	8	0 9	6 T	24·56	...
D ,, (Kirkley)	Mr. C. McMath	5	1 0	58 ⅄	22·42	174
D ,, (Bryn-y-Môr)	S. H. Miller, Esq.	5	1 0	86	23·90	175
,, (,, ,,) M	,, ,, ,,	8	1 0	86	23·19	...
D ,, (The Clyffe, Corton)	J. J. Colman, Esq., M.P.	5	4 0	65 L	24·83	186
,, (Somerleyton Rect.)	The Royal Meteor. Soc.	8	1 0	50	24·24	179
D Yarmouth (Belton)	Miss A. P. Howes	5	0 8	15 T	23·07	169
NORFOLK.						
D Diss	T. E. Amyot, Esq.	5	1 0	96	25·54	171
D Harleston (Rushall Vicarage)	Rev. C. Gape	5	1 1	117 ⅄	22·93	175
D North Lopham	Mrs. Pitt	8	1 2	...	20·32	176
Brandon (Santon)	Rev. Canon Du Port	...	..	...	22·41	...
D†Geldeston [Beccles]	E. T. Dowson, Esq.	5	1 0	38 ⅄	22·73	186
,, [,,] M	,, ,, ,,	8	1 0	38 ⅄	22·56	...
D ,, [,,]	R. Dashwood, Esq.	5	1 0	45 T	23·40	177
Ellingham [,,]	H. Youngman, Esq.	5	3 0	...	21·94	...
D Loddon (Bergh Apton)	Rev. T. F. Lloyd	8	2 4	...	24·96	166
D Wymondham	E. B. Pomeroy, Esq.	8	1 3	118 ⅄	26·28	185

DIVISION IV.—EASTERN COUNTIES—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	NORFOLK—(*con.*)						
	Watton	Rev. Canon Du Port	...	...	...	23·29	...
D	Hingham	,, ,, ,,	...	...	...	29·01	173
D	Denver	,, ,, ,,	8	1 0	80 ⅄	20·03	168
D	Stoke Ferry (Wereham)	,, ,, ,,	5	6 0	66	22·52	161
	Wymondham (Hethersett)	,, ,, ,,	...	...	...	27·50	...
D	Downham (Crimplesham)	W. S. Horn, Esq.	5	1 0	110 T	22·30	167
	Swaffham (Pickenham Hall)	H. Applewhaite Esq.	5	1 0	104 ⅄	26·32	187
	Outwell Sluice	A. Lunn, Esq.	9	...	16	17·74	116
	Yarmouth (Sailors' Home)	The Meteor. Council	8	4 0	12	24·06	179
D	,, (Market Place)	W. C. Steward, Esq.	5	1 1	...	? 29·87	154
D	,, (Halvergate Hall)	Rev. Canon Du Port	5	3 3	48 ⅄	23·56	135
D	Norwich (Postwick)	,, ,, ,,	...	...	...	23·52	189
	,, (Carrow House)	J. J. Colman, Esq., M.P.	5	4 0	35 ⅄	25·57	103
†	,, (Thorpe High House)	W. Birkbeck, Esq.	5	1 0	137 T	23·76	182
D	,, (Essex Street)	F. Dix, Esq.	9	2 6	85 T	24·17	167
	,, (Newmarket Road)	Rev. Canon Du Port	...	...	...	25·41	...
	,, (Heigham)	,, ,, ,,	5	3 2	37 ⅄	23·65	...
D	Blofield	A. W. Preston, Esq.	5	1 0	50 T	25·96	204
	†Acle Rectory	Rev. R. W. Kennion	8	0 9	40	23·00	...
	,,	Rev. Canon Du Port	...	...	...	24·49	...
D*	Swaffham (Grammar School)	C. J. Drury, Esq.	5	1 10	242 ⅄	25·78	184
D	,, *old gauge*	W. H. Plowright, Esq.	5	5 0	250 ⅄	24·19	172
D	,,	,, ,, ,,	5	5 0	250 ⅄	24·59	174
D	,,	F. Everett, Esq.	5	2 6	239	26·50	200
D	Costessey	A. J. Culley, Esq.	5	1 0	...	23·16	154
D	Sprowston (Oak Lodge)	T. Cozens Hardy, Esq.	5	1 0	101 ⅄	*24·24*	185
D	South Walsham	J. E. T. Pollard, Esq.	5	1 6	...	25·54	195
	East Dereham	G. H. Cooper, Esq.	8	3 0	161	24·04	138
	Swaffham (Dunham)	Rev. Canon Du Port	5	1 1	320	25·40	193
	Salhouse	,, ,, ,,	...	...	...	23·99	...
	Wiggenhall (Outlet Syphons)	A. Lunn, Esq.	8	...	...	21·17	138
D	Tilney St. Lawrence (Aylmer Hall)	W. B. Parsons, Esq.	8	1 2	9	19·61	170
D	Terrington	J. T. Seccombe, Esq, M.D	5	1 0	15 ⅄	19·71	144
	Felthorpe	Mrs. Bourchier	5	1 1	75	26·57	110
D	Bylaugh Park Gardens	Mr. A. Fenn	5	1 0	130 T	28·49	197
D	Reepham (Whitwell)	Rev. Canon Du Port	8	1 2	120	25·42	176
	Cawston	Rev. T. H. Marsh	5	1 0	135 T	25·20	194
	Aylsham (Woodgate)	B. J. W. Purdy, Esq.	5	1 0	100 T	27·04	191
D	North Walsham (Dilham)	Rev. Canon Du Port	...	...	...	27·10	209
D	,, ,, (Worstead)	R. Cross, Esq.	8	1 0	...	27·46	163
	Hillington (Rectory)	Rev. H. Ffolkes	8	1 0	89 ⅄	23·57	178
D†	,, School	,, ,, ,,	5	3 6	94 ⅄	23·50	178
	Fakenham (Pensthorpe)	Rev. Canon Du Port	...	...	...	24·00	...
	,, (Croxton)	,, ,, ,,	...	...	...	22·39	...
	Dersingham	Rev. E. W. Penny	5	1 0	85	22·15	...
D	Fakenham (Cranmer Hall)	Sir L. Jones, Bart.	5	1 0	144	25·52	194
	Holt (Letheringsett Hall)	W. Cozens Hardy, Esq.	8	1 2	...	22·32	131
	Field Dalling	Rev. Canon Du Port	...	...	...	20·34	...
	Holkham	J. Davidson, Esq.	12	4 0	39	18·87	...
	Hunstanton Hall	Mr. Nisbet	11	3 8	60 ⅄	20·61	...

DIVISION V.—SOUTH WESTERN COUNTIES.

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
WILTS.						
D Landford	J. R. Wigram, Esq. ...	5	1 10	167 ⅄	25·90	169
D Donhead St. Mary (Charlton Ho.)	Col. G. Best	5	0 7	514	31·92	188
D Broad Chalke	H. P. Dixon, Esq.....	8	0 8	315	27·42	162
D† Salisbury (Alderbury)	Rev. R. S. Hutchings...	5	0 8	263 ⅄	25·25	168
D† ,, (West Dean)	Rev. W. L. W. Eyre...	5	1 0	137 B	25·25	166
D ,, (Britford)	H. P. Dixon, Esq.	5	1 0	...	26·73	171
Tisbury	C. Combes, Esq.....	5	1 0	400	20·48	...
D Salisbury (Wilton House)	H. P. Dixon, Esq.	8	0 5	180 ⅄	27·93	188
D Mere	,, ,, ,, ...	5	1 0	...	27·79	144
D ,, Down	T. H. Baker, Esq.....	5	1 0	702 T	30·25	213
D Winterslow	H. P. Dixon, Esq.	5	1 0	470	28·61	147
D Maiden Bradley	,, ,, ,, ..	...	...	...	33·27	183
D Warminster (Rye Hill)	,, ,, ,, ...	8	2 0	450	30·82	204
D Amesbury	,, ,, ,, ...	5	1 0	...	23·07	167
Salisbury Plain (Chitterne House)	R. Hayward, Esq.	11	4 0	319 T	23·87	170
D Warminster (Bugley Reformat'y)	Mr. W. F. Harold.....	5	5 0	570	25·29	185
D ,,	E. Cruse, Esq.	5	1 0	387 ⅄	26·91	183
D ,, (Downside)	Mrs. Stent	8	2 3	393	29·22	194
D Amesbury (Figheldean)	G. Knowles, Esq.	5	1 0	260 T	23·19	167
Ludgershall	Rev. W. H. Awdry ...	8	0 8	422 ⅄	26·05	138
D ,, (Everleigh)	H. P. Dixon, Esq.	5	1 2	590	27·02	177
D ,, (Conholt Park)	Lady C. Wellesley.....	5	1 0	750 T	26·56	183
D ,, (Collingbourne Kingston).	Baldwin Latham Esq CE	5	1 0	470 ⅄	24·12	165
D Trowbridge (Steeple Ashton Vic.)	H. P. Dixon, Esq.	5	1 0	240 T	24·65	209
D ,, (Wingfield)	T. H. Clark, Esq.	5	1 0	190 T	25·51	166
D ,, (Rodney House) ...	W. J. Mann, Esq.....	5	1 1	140	24·42	167
,, (Lovemead)	Dr. G. Tayler.....	5	1 3	125 B	23·05	152
D Bradford (Westbury Ho.)	Miss Spencer	5	1 2	100 T	25·24	156
D ,,	H. P. Dixon, Esq.	5	1 0	...	24·88	160
D ,, (Holt)	,, ,, ...	...	...	...	25·09	202
Devizes (Southgate House)	Miss Cunnington	8	1 0	436 T	24·36	...
D ,, (Wilts Co. Asylum) ...	Dr. Ireland Bowes.....	8	2 3	385 ⅄	23·59	175
D Buttermere	H. P. Dixon, Esq.	5	4 9	...	28·51	194
D Burbage (Wolfhall)	,, ,, ,, ...	8	1 0	546	20·58	115
D Shalbourne	,, ,, ,, ...	5	1 0	...	24·59	155
D Bishop's Cannings	Rev. C. W. Hony	5	1 0	446 ⅄	24·44	186
D Great Bedwyn	H. P. Dixon, Esq.	5	1 0	...	22·28	135
D Devizes (Shepherd's Shore)	,, ,, ,, ...	5	1 6	555	23·89	163
D Chippenham (Lacock)	Miss Awdry	5	0 11	250	24·31	189
D Marlborough (Preshute House)...	H. P. Dixon, Esq.....	...	...	...	24·49	179
,,	The Royal Meteor. Soc.	...	...	...	24·09	179
D ,, (Mildenhall)	Rev. C. Soames	5	1 0	456	23·15	150
D Corsham	H. P. Dixon, Esq.	5	1 0	350 ?	24·10	170
D Calne (High Street)	Mr. H. Wilkins	5	3 6	244	24·06	195
D ,, (Compton Bassett)	Mr. W. A. Cook	8	1 0	395 T	25·66	167
D Ramsbury	H. P. Dixon, Esq.	5	1 0	411	22·36	176
D Ogbourne Maizy	,, ,, ,, ...	5	1 0	...	22·58	140
D Broad Hinton	Rev. J. A. Lloyd	5	3 0	633 T	23·30	170

DIVISION V.—SOUTH WESTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which .01 or more fell.
			ft. in.	feet.	inches.	
WILTS—(*con.*)						
D Wootton Bassett	H. P. Dixon, Esq.	5	1 0	...	22·57	171
D†Swindon, New	F. G. O'Conor, Esq.	8	0 11	378	23·98	197
,, (Pen Hill)	H. Arkell, Esq.	5	0 10	400	22·43	...
Malmesbury (The Priory)	A. W. Chubb, Esq.	5	2 6	...	24·32	..
D ,, (Charlton Cott.)	H. P. Dixon, Esq.	...	1 0	...	23·71	153
D Highworth (Hannington)	,, ,, ,,	...	...	...	23·93	167
DORSET.						
D Portland (The Manse)	Rev. W. R. Waugh	5	1 6	125 T	25·23	159
Weymouth (Wyke Regis)	Mrs. Pretor	5	0 9	80 B	25·24	170
Swanage (The Bank)	J. Andrews, Esq.	5	1 0	8	25·23	154
,,	Rev. H. Pix	5	2 0	60	25·00	155
,, (Langton Matravers)	H. Stilwell, Esq.	8	0 9	220 B	27·04	167
D Weymouth (Langton Herring)	Rev. C. H. Gosset	8	1 0	158 ⅄	24·44	185
D† ,, (Osmington Lodge)	Col. Hall	5	1 0	242 ⅄	28·22	170
Corfe Castle (Creech Grange)	N. Bond, Esq.	5	1 2	180	28·74	...
Abbotsbury	Mr. A. Dight	5	...	150	27·02	...
D Portisham	W. Symes, Esq.	5	1 0	...	27·22	164
D Wareham (Castle Gardens)	S. W. Bennett, Esq.	5	2 6	18	28·26	175
,, (Binnegar Hall) M	O. C. Farrer, Esq.	5	0 6	60 ?	26·62	...
Poole	F. Styring, Esq.	5	1 2	...	24·60	...
D ,, (The Yarrells)	,, ,,	5	1 0	60	26·00	152
,, (Hamworthy)	Mr. J. M. Henderson	5	1 6	12	24·28	109
D ,, (Parkstone)	R. H. Barnes, Esq.	5	1 0	198 ⅄	25·72	184
D Lyme Regis	M. C. Preston, Esq.	5	1 1	100	*31·59*	172
Bere Regis (Bloxworth Rectory)	Rev O. P. Cambridge FRS	8	1 4	200	28·27	137
D ,, ,, (,, House)	Col. Cambridge	5	2 0	100	25·97	131
D Maiden Newton (Cattistock Lodge)	Mr. Chapple	8	1 0	400 B	35·36	177
D Beaminster Vicarage	Rev. A. A. Leonard	5	1 0	...	31·92	184
D Blandford (Whatcombe)... *Old g.*	J. Mansel-Pleydell, Esq.	5	0 10	259 ⅄	28·91	144
D ,,. (,,)	,, ,, ,,	5	0 10	270 ⅄	29·58	144
,, (Tarrant Keynston)	G. Galpin, Esq.	5	1 0	100 T	26·79	...
Cerne Abbas (Melbury)	Mr. T. C. Elliott	12	2 9	...	33·35	...
D Beaminster (Chedington)	Miss Creed	5	1 6	604 ⅄	36·82	193
D*Wimborne Minster (Chalbury)	Rev. G. H. Billington	5	2 0	338 ⅄	26·02	153
D Hazelbury Bryan Rectory	Rev. Canon Wheeler	5	1 0	305 ⅄	42·02	171
D Sturminster Newton (Riverside)	A. R. Hallett, Esq.	5	1 0	200	24·50	149
D Shaftesbury	T. Ackland, Esq.	5	1 4	722 ⅄	30·03	181
D Gillingham	S. H. Stephens, Esq.	5	1 2	244 T	26·45	179
DEVON.						
Salcombe (Prawle Point)	The Meteor. Council	8	1 9	350	29·17	199
D ,, (The Molt)	Mr. Langmead	8	1 3	61 L	35·19	163
D ,,	A. H. Twining, Esq.	5	1 0	106 T	36·25	175
Bolt Tail	G. Balkwill, junr., Esq.	5	2 0	297	34·31	..
D Kingsbridge	W. H. Webb, Esq.	5	1 0	84	38·41	196
D Revelstoke (Membland)	Mr. G. Baker	5	1 0	180 T	38·94	155
D Dittisham (Chipton)	Mr. H. Bond	5	1 6	360 T	40·59	156

DIVISION V.—SOUTH WESTERN COUNTIES—(*continued.*)

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
DEVON—(*con.*)						
D Plymouth (Hobart Terrace)	Late Dr. Merrifield ...	8	9 2	130 ⅄	36·80	182
D*Devonport (Rowdens Res.)	H. Francis, Esq., C.E.	5	1 0	201 ⅄	34·77	196
D Ivybridge (Langham Hill)	Miss Glanville	5	1 0	400 T	42·45	200
Brixham (Lupton).....	Mr. J. Gibson.....	5	1 6	220 T	32·78	130
Plympton (Hemerdon) ...*garden*	Rev. G. L. Woolcombe	5	4 0	365	41·37	...
,, (,,)*tennis court*	,, ,, ,, ...	5	1 0	365	41·25	...
,, (Fursdon)	F. R. Fox, Esq.....	5	1 6	440	48·73	...
Bere Ferrers	Rev. F. T. W. Wintle.	5	1 0	100	42·47	202
Torquay (The Rosery)	A. Chandler, Esq.....	5	1 0	36	33·86	188
,, (Grey Lodge)	Col. J. R. Currie	5	1 0	161	30·91	208
D† ,, (Babbacombe) *Snowdon*	E. E. Glyde, Esq.	5	1 0	294 ⅄	30·57	196
D ,, (Watcombe Park)	Col. C. Ichabod Wright	5	1 0	500 T	31·27	207
D Buckfastleigh (Bossel Park) ...	J. Hamlyn, Esq.....	5	1 0	250	51·77	157
*Walkhampton (Lowery)	H. Francis, Esq., C.E.	5	1 0	890 T	53·26	190
Kingskerswell (Fluder)	R. W. Beachey, Esq...	5	1 0	353	31·07	163
Abbotskerswell (Court Grange)..	Mrs. Hare	5	1 0	130 B	31·25	135
D Ashburton(Holne Vicarage) *old g.*	Rev. J. Gill.....	5	1 0	650 B	54·91	207
D ,, (,, ,,)	,, ,, ...	5	1 6	650	55·20	207
D† ,, (Druid House)	Fabyan Amery, Esq....	5	1 0	572 T	44·55	183
D Kingsteignton (Teignbridge Ho.)	F. H. Plumptre, Esq...	5	1 2	27 ⅄	30·06	168
†Teignmouth (Marine Villa)	W. B. Harris, Esq. ...	5	1 0	18	27·65	163
D ,, (Woodway)	Late G. W. Ormerod, Esq	5	1 0	235	29·01	192
D ,, (Bonnicliff)	Capt. J. Horner.....	5	1 0	260 T	28·65	188
D†Tavistock (Public Library)	Mr. R. Westington ...	8	20 0	283 T	43·38	212
D ,, (West Street)	H. A. Gibson, Esq	5	1 1	272	49·56	226
D†Ilsington (Middlecott House) ...	Alfred Lyon, Esq.	9	3 6	649 T	41·39	139
Princetown	The Royal Meteor. Soc.	5	1 0	1395	102·07	245
,, (Cowsic Valley).....	H. Francis, Esq., C.E.	8	1 6	1352 ⅄	72·55	...
Ashburton (Widecombe Vic.) ...	Rev. J. Williams	5	2 0	810	45·76	...
D Chudleigh (Ideford)	Rev. G. J. Ford.....	4	1 0	300 ⅄	31·44	194
D Bovey Tracey (Colehays)	Mr. E. E. Underdown.	5	1 3	415 T	41·81	212
†Milton Abbot (Endsleigh).....	Mr. F. Yole	5	1 0	180 ?	51·85	...
D Chudleigh (Torquay Waterworks)	T. S. Weeks, Esq., C.E.	8	4 0	718 ⅄	35·69	190
,, (Trusham)	Rev. O. H. Cary	5	0 6	322 T	35·01	256
Budleigh Salterton.....	R. Walker Esq., M.D..	5	4 0	80	28·16	168
D ,, ,, (Ravensh aw)	Col. Carlile.....	6	0 6	50	28·27	156
,, ,, (E. Budleigh)	R. H. Lipscomb, Esq...	5	1 0	70 ⅄	30·34	163
,, ,, (Bickton) ...	Mr. Phillips	5	1 0	90	28·16	169
D Kenton (Southtown House)	Major Courtenay	8	2 6	70 L	32·75	171
Coryton (Lew Down)	Mr. T. M. Symons.....	5	5 0	445	41·08	205
Polapit Tamar [Launceston] ...	E. Coode, Esq.	5	2 9	300	34·87	...
D Christow (Torquay W. W.)	T. S. Weeks, Esq., C.E.	8	1 0	842 ⅄	37·01	192
D Chagford (Batworthy)	F. N. Budd, Esq.	8	1 0	1282 ⅄	60·66	233
†Sidmouth (Sidmount)	The Royal Meteor. Soc.	5	1 0	149 ⅄	31·06	223
D Rousdon [Lyme Regis].....	C. E. Peek, Esq.	5	1 0	524 T	32·64	187
,, [,, ,,]..... M	,, ,, ,, ...	3	1 0	524 T	33·41	...
D†Clevelands [Lyme Regis].....	E. L. Ames, Esq.	5	1 11	465 ⅄	36·59	186
Exeter (Devon & Exet. Inst.) ...	Mr. E. Parfitt.....	6	13 7	155 ⅄	28·48	141

DIVISION V.—SOUTH WESTERN COUNTIES—(*continued.*)

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter.	Height Above Ground. ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1890 inches.	Days on which ·01 or more fell
DEVON—(*con.*)							
D Exeter (Manston Terrace)	Miss Dymond	5	1	0	166 T	27·84	191
,,	The Royal Meteor. Soc.	...	...		112	29·01	167
D†Okehampton (Oaklands)	W. H. Holley, Esq.	5	1	0	521 T	44·27	185
Axminster (Great Trill)	F. J. Sparks, Esq.	5	1	0	300 T	32·81	127
D†Exeter (Brampford Speke)..*old g.*	Miss Gamlen	5	1	0	113 T	30·52	202
D Axminster	Mr. S. Griffin	5	3	6	138 T	34·93	145
D Honiton (Feniton Court)	Miss A. Pinckney	5	1	0	229	33·43	190
D ,, (Ivedon) .....*new gauge*	E. Stanley, Esq.	5	1	0	430 T	33·20	202
D Hatherleigh (Broomford Manor)	Mr. W. Mortimore	5	1	4	484 T	41·38	175
,, (Winsford)	Mr. A. Muirhead	5	1	3	500	?28·51	...
,, (Ash)	J. S. Osbourne, Esq.	5	1	2	332 T	37·21	147
D Cullompton	T. Turner, Esq.	5	1	0	202 T	31·36	203
D Petrockstow (Heanton Satchville)	Mr. A. Eames	5	1	0	332 T	38·71	207
D Tiverton (Cove)	Miss North Row	11	0	10	450 ?	34·75	150
,, (Broomhill)	Mrs. Dickinson	5	1	0	380	38·91	198
,, (Ivy Place, S.Peter's St)	H. S. Gill, Esq.	5	6	0	270	36·56	209
D Torrington (Beare Ho., Langtree)	Mr. J. Snow	5	1	0	451 T	44·83	223
,, (Stevenstone)	R. H. Lipscomb, Esq.	5	1	0	450	39·32	213
,, (Little Silver)	,, ,, ,,	5	1	0	395 T	37·87	211
D Bampton (Huntsham)	Col. Troyte	8	1	0	640	43·12	224
D South Molton (Rose Ash)	Mrs. Davy	8	1	0	766 T	38·01	171
D Bideford(Heale House Littleham)	R. Sanders, Esq.	8	1	0	280 B	39·88	198
D Hartland Abbey	Mr. G. Sleep	5	1	6	222 T	40·43	189
D South Molton (East Street)	N.C.Hatherly, Esq.M.D	5	1	0	430 B	41·39	224
,,	The Royal Meteor. Soc.	...	...		...	40·24	241
,, (Castle Hill)	Mr. R. Nicholas	12	3	9	600 T	40·05	197
D Bideford (Water Works)	Baldwin Latham Esq CE	5	1	0	335 T	33·73	180
*† ,, (Horwood)	Rev. J. Dene	5	1	0	288 T	30·81	217
D ,, (St. Helen's, Northam)	Miss L. Bowles	5	1	5	...	32·02	203
D*† ,, (Northam)	Rev. M. D. Churchward	5	1	0	173 T	32·97	219
D Barnstaple	Mr. Knill	8	1	0	31 T	29·67	164
D ,, (Pilton)	Miss Hibbert	5	1	0	75	34·87	216
D ,, (Arlington Court)	Lady Chichester	5	1	1	613 B	47·96	228
Lynton (Parracombe)	Rev. J. F. Chanter	5	3	0	795 T	39·59	194
D†Ilfracombe Hotel	Mr. W. Tattam	12	9	0	35	26·24	199
†Lynton (Lee Abbey)	C. F. Bailey, Esq.	5	0	6	340 T	29·64	...
CORNWALL.							
Penzance (Penlee)	J. Branwell, Esq.	5	1	0	71 T	48·37	233
,, (Trevean)	Major Ross	5	1	6	90 B	48·11	206
D ,, (St. Clare)	Rev.Preben. Hedgeland	5	1	0	213 T	49·47	263
Marazion	T. W. Field, Esq.	5	2	0	30 ?	41·53	224
Falmouth (New Observatory)	E. Kitto, Esq.	11	2	0	169 T	45·14	203
D ,, (,, ,,)	,, ,,	8	1	9	169 T	44·72	204
St. Just	R. B. Searle, Esq.	5	1	0	400	46·91	...
Morvah (Bosporthenis)	Mr. J. H. Thomas	5	3	6	600 ?	44·50	...
D Falmouth (Carclew)	Mr. J. Simmons	5	0	9	...	45·15	182
D Redruth (Trevince)	E. B. Beauchamp, Esq.	8	0	8	240 T	46·39	216

DIVISION V.—SOUTH WESTERN COUNTIES— *continued.*)

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above SeaLevel	Depth of Rain. 1890	Days on which .01 or more fell.
			ft. in.	feet.	inches.	
CORNWALL—(*con.*)						
D Redruth (Trewirgie)	A. H. Jenkin, Esq. ...	5	1 0	400 T	46·98	236
D ,, (Tehidy Park)	Mr. A. Mitchell	8	1 1	287	40·91	224
†Truro (Royal Institution)	*Registrar Gen. Return.*	5	40 0	56 ⅄	45·10	226
,, (Penarth)	Late N. Whitley, Esq..	10	1 0	200 T	42·59	198
D Probus (Lamellyn)	H. Tresawna, Esq	5	0 6	...	42·89	187
St. Agnes	Mr. Opie	5	1 3	278 B	39·62	200
D†*St Austell (Trevarna)	W. Coode, Esq.	5	0 6	300 ⅄	47·69	227
,, (Gunheath)	J. W. Higman, Esq....	5	5 6	700	44·05	...
Par Station (Penellick)	W. E. Geach, Esq. ...	5	0 9	240 T	37·04	...
Empacombe [Devonport]	S. Harvey, Esq.	5	0 7	20	36·08	193
D St. John's [Devonport]	Rev. J. H. Kirwan	5	1 0	20	38·62	192
D Lostwithiel (Lanwithan)	Miss Foster	10	1 0	80	45·08	204
D Liskeard (Herodsfoot Vic.)	Rev. G. B. Hooper	8	2 0	295	48·29	230
D† ,, (Dean Terrace)	S. W. Jenkin, Esq., C.E.	5	1 1	375 ⅄	49·19	204
†Saltash (Pentillie Castle)	Mr. A. W. Cove	5	1 6	150 B	52·04	200
D†Bodmin (Lanhydrock)	Rev. Prebendary Every	5	1 0	390	52·01	241
D† ,, (Fore Street)	Mr. A. Hambly	8	2 6	336 T	52·24	238
Liskeard (St. Cleer)	S. W. Jenkin, Esq., C.E.	5	1 1	620 ⅄	43·84	...
†Callington (Hingston Down) *old g*	Mr. Wadge	5	3 0	850 T	49·48	205
,, (,, ,,)	,, ,,	5	3 0	850 T	49·95	205
†Launceston (Altarnun)	Rev. A. H. Malan	5	1 0	570 B	56·17	233
D ,, (South Petherwin)	Mrs. May	5	0 4	470 B	41·12	193
Bude	J. Arthur, Esq.	5	1 0	16 B	33·08	...
D Stratton (Trelana, Poughill)	Col. Field	5	1 0	200	38·74	238
SOMERSET.						
Chard (Cricket St. Thomas)	RtHn. Viscount Bridport	5	1 0	444	35·48	125
D Crewkerne (Bincombe House)	F. J. Sparks, Esq.	5	1 2	250 T	29·63	126
D Yeovil (West Coker)	Major Aldworth	5	1 0	260 T	28·70	195
D ,, (Hendford)	J. Curtis, Esq.	5	1 0	132	27·11	145
D ,, (Summerlands)	R. W. Burnell, Esq....	5	3 0	232	27·16	162
D Ilminster (White Lackington)	Rev. Prebendry Gowring	5	1 0	136 ⅄	29·50	175
D ,, (Ilton Vicarage)	Rev. R. B. Poole	5	1 0	100 ⅄	27·93	184
D South Petherton	W. Blake, Esq.	8	0 8	110 T	24·36	177
D Temple Combe (Stowell Rect.)	Rev. H. J. Poole	8	1 0	376 T	29·18	197
D Langport (Huish Episcopi)	J. Kelway, Junr., Esq.	8	1 0	74 T	25·78	153
D Milverton	J. H. Bere, Esq.	5	1 0	198	29·41	170
,, (Halse)	J. D. Hancock, Esq. ...	5	1 1	200 T	26·51	172
D ,, (Fitzhead Court)	J. E. Knollys, Esq. ...	5	1 0	297 T	27·77	156
Cothelston House	C. E. J. Esdaile, Esq...	5	1 0	500	35·12	184
D Somerton (Butleigh Court)	R. Neville Grenville, Esq	8	1 2	80	29·42	132
D Glastonbury (Street)	W. S. Clark, Esq.	8	0 6	100	26·83	202
,, (High Street)	J. Spire, Esq.	8	7 0	94 T	27·19	177
D ,, (Ynyswytryn)	Major Swayne	5	1 6	245 T	25·95	170
D ,, (Magdalene House)	J. G. L. Bulleid, Esq..	5	1 6	52 T	24·96	158
D Exford Rectory	Late Rev. Preb. Howes.	5	1 0	902 ⅄	45·35	263
Bridgwater (Nurseries)	H. Corder, Esq.	5	0 6	...	26·43	182
D ,, (Ashford)	G. B. Laffan, Esq.	5	1 2	80	28·10	185

DIVISION V.—SOUTH WESTERN COUNTIES—(*ocntinued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above SeaLevel feet.	Depth of Rain. 1890 inches.	Days on which ·01 or more fell.
	SOMERSET—(*con.*)							
D	Dunster (Knowle)	Worsley Battersby, Esq.	5	1	0	200 T	32·97	162
	Minehead (Blair)	Dr. Clark	5	1	0	75 T	27·97	162
D	Wells	Mr. R. J. Manning	5	44	0	181 T	30·86	182
	,, (*Garden*)	,, ,, ,,	5	1	3	139 T	30·25	182
D	,, (Westbury)	The late Rev. C. Alford	5	1	0	145 T	29·14	187
D	Frome (Mells Rectory)	Rev. G. Horner	5	1	0	344 R	29·12	187
D	,, (Rock House, Mells)	W. A. Fussell, Esq.	7	2	4	326 R	30·84	196
	,, (,, ,, ,,)	,, ,, ,,	5	7	6	331 R	29·89	196
	Radstock (Downside)	Rev. T. L. Almond	8	1	0	590	31·97	183
	Chewton Mendip (The Priory)	Mr. J. Batt	5	1	5	550 T	38·72	159
	Ston Easton	H. E. Hippisley, Esq.	5	3	0	480 R	34·65	190
D	Norton St. Philip (Chatley Ho.)	H. H. Palairet, Esq.	5	1	0	380 T	25·21	146
	E. Harptree (Sherborne Reservoir)	Bristol Water Works	5	1	0	338 T	32·37	187
D	,, (Harptree Court)	W. W. Kettlewell, Esq.	5	1	0	346 R	36·19	190
	Axbridge (Winscombe)	Rev. R. F. Follett	8	1	0	200 T	27·16	133
D	Pensford (Sutton Court)	Sir E. Strachey, Bt.	8	1	0	...	31·78	195
	Weston-super-Mare (High St.)	The Roy. Meteor. Soc.	5	1	0	20	24·91	179
D	,, ,, ,, (Worle Vic.)	Rev. W. F. Rose	5	1	0	16	28·74	196
	,, ,, ,, (Kewstoke)	Rev. S. G. Gillum	5	0	10	60 ?	28·50	205
	Chew Magna	Bristol Water Works	5	1	0	160 T	30·80	191
D†	Bath (Royal Literary Institute)	Mr. E. A. Baker	6	8	0	75 R	24·66	153
	,, (Bathwick)	Mrs. Dunn	5	1	0	70	*22·39*	...
D	,, (Ensleigh, Lansdowne)	C. H. Weston, Esq.	8	0	7	740 R	29·12	199
D	,, (Charlcombe)	C. Gilby, Esq., C.E.	8	2	0	325 T	26·31	159
	Batheaston M	Col. Linley Blathwayt	5	0	8	100	26·81	...
D	,,	,, ,, ,,	5	1	0	166	26·40	175
D	,, Reservoir	C. Gilby, Esq., C.E.	6	2	0	248 R	25·47	184
	Yatton (Chelvey)	Bristol Water Works	7	0	6	...	27·37	158
	Barrow Gurney Reservoir	,, ,, ,,	5	1	0	320 T	30·09	171
D	Long Ashton Estate Office	T. Dyke, Esq.	8	1	0	134	27·79	196

DIVISION VI.—WEST MIDLAND COUNTIES.

	GLOUCESTER.							
D	Monkswood Reservoir [Bath]	C. Gilby, Esq., C.E.	6	2	0	363	26·24	188
	Bristol (Small Street)	Bristol Water Works	12	33	10	52	23·41	160
D†	Clifton (South Parade)	Dr. G. F. Burder	8	1	0	192 R	24·91	175
	,, (Royal York Crescent)	Miss Bridge	5	8	2	226 T	27·21	196
D	,, (Pembroke Road)	R. F. Sturge, Esq.	8	1	0	215	26·68	187
D	Bristol (Redland)	Mr. M. W. Dunscombe	5	6	6	225	24·33	170
D	,, (Over Court) Park	R.C.C. Lippincott, Esq.	5	1	0	148 T	25·39	201
D	,, (,, ,,) Garden	,, ,, ,,	8	0	8	137	24·94	197
	Chipping Sodbury (Frampton Cotl)	J. Marsh, Esq.	5	1	0	180 R	21·83	157
D	,, ,, (Stanshawes Ct)	R. N. Hooper, Esq.	5	1	3	280 R	24·21	164
D	Almondsbury	Rev. C. O. Miles	5	1	0	144	21·87	186
D	Wickwar Rectory	Rev. R. J. Lyon	5	1	0	260 R	23·42	177
D	Dennel Hill [Chepstow]	Major Cowburn	8	1	0	573 R	26·80	191

DIVISION VI.—WEST MIDLAND COUNTIES—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	GLOUCESTER—(*con.*)						
D	Fairford (Kempsford)	A. T. Iles, Esq.	5	1 0	...	22·50	165
D	,, (Horcott)	R. A. Iles, Esq.	5	0 8	...	23·10	160
	Berkeley (Salter Street)	H. E. Cooke, Esq.	5	1 6	60	22·14	188
D	,, (Sharpness New Docks)	F. A. Jones, Esq., C.E.	8	3 9	50	20·63	147
D	Lechlade	T. Arkell, Esq.	5	0 10	253	22·69	161
D	Amberley (Highlands)	Mrs. Blackwell	8	0 10	550 T	23·57	126
D	Lydney (Clanna)	Capt. Marling	5	1 0	260	28·83	150
D	Cirencester (Claremont Place)	R. Gorton, Esq.	8	1 0	356 T	23·58	192
	,, (,, ,,)	,, ,, ,,	8	2 0	357 T	23·92	192
	,, (,, ,,)	,, ,, ,,	8	0 6	356 T	23·96	192
	,, (,, ,,)	,, ,, ,,	8	11 0	366 T	22·83	192
D	,, (Royal Agricultural Coll.)	J. Hendrick, Esq.	5	1 0	443 ⊼	22·15	173
D	,, (Further Barton)	Miss Brown	5	1 0	425	23·70	185
D	Stroud (Stanley Park)	W. J. Paley Marling, Esq	8	1 0	365	23·50	182
D	,, (Upfield)	Miss Stanton	5	1 0	226 ⊼	21·91	173
D	Fairford (Hatherop Rectory)	Rev. R. P. Davies	8	1 3	411 ⊼	*20·77*	140
D	Frampton-on-Severn (Saul Lodge)	F. A. Jones, Esq., C.E.	5	3 6	42 ⊼	19·36	192
D	Coleford (Newland)	L. H. Hall, Esq.	5	2 0	350 ?	24·25	168
	,, (The Coombs)	R. Tyrer, Esq.	5	...	660	31·12	210
D	Newnham-on-Severn	D. J. Wintle, Esq.	5	0 10	56 ⊼	24·87	103
D	Coleford (Staunton Rectory)	Mrs. Jay Jones	5	0 8	726 T	27·01	210
D	Westbury-on-Severn	H. S. Grant, Esq.	5	1 0	120 T	22·55	170
D	Great Barrington [Burford]	B. W. Mason, Esq.	5	1 0	416 T	23·23	163
	Northleach (Yanworth)	T. Arkell, Esq.	5	1 0	...	24·14	145
	,, (Sherborne House)	Mr. Scott	5	1 0	405	22·17	...
	,, (,,)	T. Broughton, Esq.	5	3 6	443 ⊼	23·31	...
D*	,, (Hampnett Rectory)	Rev. W. Wiggin	5	1 0	653 ⊼	22·64	182
	Gloucester (Quedgeley House)	W. G. Robinson, Esq.	5	1 0	65 T	19·07	173
D	,, (Birdlip Hill)	A. S. Helps, Esq.	5	1 0	800 B	22·38	178
D	,, (Witcombe Res.)	R. Read, Esq., C.E.	8	3 0	297 ⊼	21·62	161
D	,, (Llanthony Lock)	H. J. Marten, Esq., C.E.	5	1 2	39 ⊼	16·57	143
	,, (Denmark Road)	W. B. Wood, Esq.	8	3 0	66	18·45	...
D	,, (Lower Barton Street)	W. P. Brown, Esq.	5	1 0	65 ⊼	18·86	169
	,, (Wotton Hill)	A. J. Stephens, Esq.	5	1 0	80 T	18·96	...
D	,, (,, Asylum)	E. Cardwell, Esq., M.D.	8	0 9	90 ⊼	19·62	179
D	Mitcheldean (Edge Hill House)	W. H. M. Phillips, Esq.	5	1 0	725 ⊼	24·76	192
	Cheltenham (Dowdeswell)	J. Hall, Esq., C.E.	5	1 0	375	21·99	182
D†	Gloucester (Maisemore Lock)	H. J. Marten, Esq., C.E.	5	1 1	39 ⊼	17·65	211
	Bourton-on-the-Water	Miss Coles	5	1 6	435 ⊼	22·94	137
D	,, ,, ,,	E. W. Kendall, Esq.	5	1 0	434 T	22·69	159
D	Cheltenham (Battledown)	Sir Brook Kay, Bt.	5	0 8	393 ⊼	19·88	173
	,, (Northfield)	J. Hall, Esq., C.E.	8	2 0	520	23·35	160
	,, (Hewletts Res.)	,, ,, ,,	8	0 9	400	22·54	160
D	,, (Heath Lodge)	Rev. M. A. Smelt	8	1 0	206	20·00	179
	,, (Selsley Lawn)	W. McLandsboro Esq CE	5	4 0	236	19·82	...
D	,, (Southam Villa)	R. Tyrer, Esq.	5	1 0	184 ⊼	20·09	191
	,, (,, ,,) M	,, ,, ,,	5	1 0	184 ⊼	18·25	...
D	Moreton-in-Marsh (Longborough)	W. Arkell, Esq.	5	0 9	...	22·27	167

DIVISION VI.—WEST MIDLAND COUNTIES—(*continued.*)

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	in ches.	
GLOUCESTER—(*con.*)						
D Moreton-in-Marsh (Longborough)	W. Arkell, Esq.....	5	1 0	...	22·61	167
D†Tewkesbury (Upper Lode)	H.J. Marten, Esq., C.E.	5	1 0	41 ⅄	19·34	193
,, ...	J. Hall, Esq., C.E.....	5	0 9	44	16·23	155
D ,, (Beckford)	F. Slade, Esq., C.E. ...	8	1 0	120 ⅄	18·62	183
D Alscot Park [Stratford-on-Avon]	Mr. T. B. Wilson	5	1 3	...	19·24	179
HEREFORD.						
Wyastone Leys [Monmouth] ...	J. M. Bannerman, Esq.	6	1 0	200 B	23·33	186
D†Ross (The Graig)	H. Southall, Esq.	5	1 0	213 ⅄	22·53	193
,, (Perrystone Court)	Mr. T. Greenway	5	1 3	...	19·93	185
Much Dewchurch (Bryngwyn)...	J. Rankin, Esq., M.P.	5	0 6	416 B	22·42	183
D Much Marcle (Homme House) ...	Mr. J. Maxton	5	0 11	280 T	20·25	165
D ,, ,, Vicarage	Rev. J. Dunn.....	5	1 0	204 ⅄	20·33	174
D ,, ,, (Caerswall)	T. Charles, Esq.....	5	1 0	423 B	22·14	180
D Ledbury (Orchardleigh)	M. A. Wood, Esq.....	5	3 0	160	20·19	153
,, (Putley Court)	J. Riley, Esq.....	5	1 0	290	22·17	161
Hereford (The Elms).....	C. Anthony, Esq.	8	2 0	277 ⅄	18·75	157
D ,, ...	Rev. H. W. Phillott...	5	1 1	180	17·80	153
,, (Lorraine House)	A. Coore, Esq.	5	1 6	...	17·56	...
,, (Hagley Park)	A. Hutchinson, Esq....	5	0 6	300 B	17·48	...
D†Ledbury (Colwall).....	Mrs. Devas.....	5	1 2	650 B	22·11	175
D ,, (Canon Frome Vic.) ...	Rev. M. Hopton.....	8	1 3	252 T	19·78	173
Hereford (Brinsop Vic.)	Rev. W. Elliot	5	1 0	300 T	17·44	149
,, (Burghill) ..... No. 3	T.A.Chapman,Esq.M.D	5	1 0	275	18·42	174
D ,, (,,) ..... No. 4	,, ,, ...	5	1 0	275	18·24	174
D Hope-u-Dinmore (Hampton Ct.)	J. H. Arkwright, Esq..	8	1 2	212 B	19·31	132
D Weobley (Dilwyn).....	T. L. Hall, Esq., M.D.	5	0 8	290	20·97	204
D Kington (Lynhales)	S. Robinson, Esq.	8	1 0	...	26·18	186
D Pembridge (Marston).....	H. Langston, Esq.....	5	1 5	347 ⅄	22·39	189
D Bromyard (Buckenhill).....	R. Phipps, Esq.....	8	1 9	...	21·62	145
Leominster (Farm)	Mrs. Southall.....	5	1 0	250 B	23·19	202
D Kington (Eywood).....	RtHonLd. Ormethwaite	8	12 0	600	26·83	188
D Stoke Bliss	Rev. G. E. Alexander..	5	1 0	420 T	*23·01*	188
SHROPSHIRE.						
D Ludlow (Ashford)	Rev. J. Selwood Tanner	5	1 5	233	21·94	190
D ,, (Dinham)	A. Marston, Esq.	...	...	...	23·98	185
Dowles [Bewdley].....	J. M. Downing, Esq..	5	1 3	162 ⅄	20·29	138
Cleobury Mortimer (Neen Savage)	Rev. F. Burd	5	0 11	367 T	24·62	195
D Ludlow (Bromfield Vicarage) ...	Rev. W. Selwyn	5	1 0	300 T	26·36	200
Clun (Bettws).....	Mr. R. F. Brand	5	2 0	1150 T	32·38	...
D Craven Arms (Stokesay Vicarage)	Miss La Touche.....	5	1 0	371 ⅄	24·99	182
D Burwarton	Rev. A. James	5	1 0	830	29·41	211
D Bridgnorth (Coton Hall)	Col. Wakeman	3	2 0	460 T	23·10	111
Bishop's Castle (Totterton)	W. H. Whitaker, Esq.	5	0 7	...	*27·97*	153
,, ,, (Castle Street)...	E. Griffiths, Esq.	5	2 0	720 B	27·03	181
D Much Wenlock (Larden Hall) ...	Miss F.Rouse Boughton	8	1 3	658 ⅄	24·59	222
D Bridgnorth (Aldenham Park) .	W. F. De Wend, Esq..	5	3 9	430 T	23·68	144

DIVISION VI.—WEST MIDLAND COUNTIES—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground. ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1890 inches.	Days on which .01 or more fell.
	SHROPSHIRE—(*con.*)							
	Church Stretton (Preen Manor)	A. Sparrow, Esq.	5	1	0	700 T	24·70	188
D	,, ,, (Woolstaston)	Rev. E. D. Carr.	5	1	0	800 ⅄	27·27	214
D	Middleton in Chirbury	Rev. W. Brewster	5	1	2	702 ⅄	23·64	202
D	Much Wenlock (Willey Park)	Rt. Hon. Lord Forester	5	1	0	502 ⅄	24·33	189
	Condover Hall	Mrs. Close	5	1	3	184 T	20·54	127
	Minsterley (Hampton Hall)	J. Whitaker, Esq.	...	1	0	630 T	25·59	...
	,, (Wallop)	J. E. Severne, Esq.	8	1	2	700 T	28·15	175
D	Pontesbury (The Villa)	Mr. W. R. Croft	5	1	6	350	22·81	159
D	Shifnal (Neachley)	Col. Hon. F. Bridgeman	5	1	8	280	24·24	202
D	Shrewsbury (Onslow Hall)	Late Col. Wingfield	8	0	5	301	21·07	144
	,, (,, ,,) ...M	,, ,,	8	0	5	306	20·89	...
D	Wem (The Clive Vic.)	Rev. J. Cooper Wood	5	1	0	299	23·65	205
D	Cheswardine (Knighton Res.)	G. R. Jebb, Esq., C.E.	8	0	3	351 ⅄	28·50	182
	Oswestry (Hengoed)	Rev. A. R. Lloyd	5	6	0	470 ⅄	29·32	...
	Market Drayton (Buntingsdale)	Mrs. Tayleur	5	1	0	276 ⅄	26·52	169
D	Adderley Rectory	Rev. A. Corbet	5	0	9	290 T	26·76	193
	STAFFORD.							
	Dennis [Stourbridge]	C. Webb, Esq.	8	6	6	270 B	21·95	191
	Netherton (Lodge Farm Res.)	E.B. Marten, Esq., C.E.	5	1	0	445 ⅄	21·14	178
D	Dudley (Shavers End)	W. Vawdrey, Esq., C.E.	5	1	0	770 T	21·65	176
D	Perry Hall [Birmingham]	Mr. G. B. Mitchison	5	2	6	343 ⅄	24·54	214
D	West Bromwich	J. T. Eayrs, Esq., C.E.	8	4	6	547 T	19·36	142
	Walsall	E. B. Marten, Esq., C.E.	8	4	0	463 ⅄	25·09	196
	Wolverhampton (Town Hall)	REW Berrington Esq CE	5	15	6	481 ⅄	22·67	142
	,, Park	Mr. W. Thomas	5	1	0	430 ⅄	24·46	165
	,, (Tettenhall)	R. Smith, Esq., C.E.	5	1	0	454	21·66	195
D	,, (Patshull)	Mr. W. Farr	8	1	3	272 ⅄	22·55	174
D	,, (Wrottesley)	Mr. E. Simpson	8	1	0	500	21·18	148
	Bloxwich (Sneyd Res.)	E.B. Marten, Esq., C.E.	5	1	0	507 ⅄	21·51	164
	Hammerwich (Cannock Chase Res)	,, ,, ,,	5	1	0	475 ⅄	20·74	195
	Lichfield Museum	Mr. J. P. Roberts	5	2	0	220 ⅄	24·84	205
D	Weston Park [Shifnal]	Rt. Hon. Earl of Bradford	5	1	6	400 T	24·10	196
D	Brewood (Belvide Res.)	G. R. Jebb, Esq., C.E.	8	1	0	367 ⅄	20·80	122
D	Penkridge (Rodbaston)	H. Ward, Esq.	5	1	0	324	23·64	144
D	Hednesford	W. Vawdrey, Esq., C.E.	5	1	0	770	17·36	139
	Alrewas (The Cottage)	E. Sellick, Esq.	5	1	6	181 T	18·66	135
D	Burton (Rangemoor)	Mr. Bennett	5	5	6	424 T	24·15	175
D	,, (Shobnall)	R. W. Abbotts, Esq.	5	6	0	156 T	18·70	137
D	,, (Derby Road)	J. G. Wells, Esq.	5	1	0	151 T	19·80	234
D	,, (Hoar Cross)	F. Lycett, Esq.	8	4	0	400 T	25·29	167
D	Uttoxeter (Brook House)	Mr. J. J. Gibbons	5	1	0	283 ⅄	28·72	236
D	Market Drayton (Old Springs)	F. E. Harding, Esq.	5	0	8	422	28·63	173
D†	Cheadle (The Heath House)	J. C. Philips, Esq.	5	1	0	647 ⅄	28·52	201
D†	,, (Tean Vicarage)	Rev. G. T. Ryves	5	1	1	470 T	30·20	215
D	Longton (The Meir)	J. B. Piercy, Esq.	5	1	0	618 ⅄	27·11	211
D	Newcastle (Madeley)	,, ,, ,,	5	1	0	348 ⅄	29·93	198
	Stoke (Stanley Reservoir)	E. B. Smith, Esq., C.E.	5	3	1	550 T	26·38	108

DIVISION VI.—WEST MIDLAND COUNTIES—(*continued.*)

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height above Ground.	Rain Gauge. Height above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
STAFFORD—(*con.*)						
Etruria	E. B. Smith, Esq., C.E.	5	4 2	440	28·61	111
Alstonfield Vicarage	Rev. W. H. Purchas...	5	1 0	909 ⅄	35·82	...
D Leek (Wall Grange) *old g.*	J. B. Piercy, Esq.	8	1 0	458 ⅄	32·34	200
D ,, (,, ,,) *new g.*	,, ,, ,,	5	1 0	458 ⅄	28·75	201
Knypersley [Congleton]	E. B. Smith, Esq., C.E.	5	3 1	550 T	37·46	161
WORCESTER.						
D Pendock Rectory [Tewkesbury]	Rev. W. A. Strong	5	4 9	95	19·15	164
Blockley	R. B. Belcher, Esq.	5	1 0	472 ⅄	21·55	...
Northwick Park	Lady Northwick	8	1 6	410 ⅄	21·77	...
Upton-on-Severn (Willow Bank)	J. S. Cowley, Esq.	5	1 0	...	18·83	150
D Evesham (Lansdowne)	R. Burlingham, Esq.	5	5 0	124 B	15·83	116
D ,, (Bank)	T. J. Slatter, Esq.	5	1 0	120 T	17·18	190
D† Great Malvern (Hornyold Road)	H. Sandoe, Esq.	5	0 7	550 L	21·72	178
† ,, ,, (Church Street)	J. E. Palmer, Esq.	5	1 0	361 ⅄	19·86	...
D† ,, ,, (Davenham Bank)	Mr. A. Bradshaw	8	1 0	290 T	*19·36*	120
D† ,, ,, (Belle Vue House)	D. B. Coldwell, Esq.	5	4 0	520	20·80	182
D ,, ,, (Malvernbury)	R. B. Johnson, Esq.	6	1 0	90 T	19·32	157
† ,, ,, (Madresfield Rect.)	Rev. G. S. Munn	5	1 4	124 T	19·22	165
D† ,, ,, (,, Court)	Mr. W. Crump	8	2 6	135 T	19·54	150
D† Worcester (Diglis Lock)	H. J. Marten, Esq., C.E.	5	1 0	49 ⅄	18·47	200
D† ,, (Bevere Lock)	,, ,,	5	1 1	52 ⅄	17·68	180
D ,, (Hawford Lodge)	F. Ames, Esq.	5	1 1	...	20·01	109
D† Droitwich (Holt Lock)	H. J. Marten, Esq., C.E.	5	1 1	55 ⅄	19·20	164
D Tenbury (Stanford Rectory)	Mrs Winnington Ingram	...	...	...	24·45	176
D ,, (Orleton)	T. H. N. Davis, Esq.	5	0 9	193 ⅄	23·33	184
D Redditch (Prospect Hill)	H. Page, Esq., M.D.	5	1 0	420 T	20·94	176
D Bromsgrove (Stoke Refor.) *old g.*	Mr. J. Salter	5	1 3	225 L	18·12	143
,, (,, ,,)	,, ,,	5	4 6	225 L	18·29	...
D ,, (Tardebigge Res.)	F. A. Jones, Esq. C.E.	5	3 0	433 T	21·94	187
D† Stourport (Lincombe Lock)	H. J. Marten, Esq., C.E.	5	1 0	62 ⅄	19·38	175
,, (Hartlebury)	J. Watson, Esq.	5	2 0	320	19·73	...
D Bromsgrove (Lower Bittal Res.)	F. A. Jones, Esq. C.E.	5	3 0	430 T	21·77	175
D Bewdley (Winterdyne Gardens)	Mr. W. Wrather	8	2 0	...	21·51	149
D Kidderminster (Woodfield)	Rev. J. R. Burton	5	3 0	167	20·30	167
D ,, (Prospect Hill)	Mr. J. T. Cowderoy	...	1 0	161 ⅄	19·92	192
Stourbridge (Pedmore)	E. B. Marten, Esq., C.E.	8	0 11	350 ⅄	21·79	200
D Moseley [Birmingham]	G. F. Lyndon, Esq.	5	1 0	478 T	23·51	175
WARWICK.						
D Shipston (Compton Wynyates)	J. Sargent, Esq.	5	2 6	480	20·22	198
Radway (Ivy Lodge)	Rev. G. Miller	5	1 1	530 T	22·15	168
D Farnborough Vicarage	Miss Prater	5	1 0	520	23·50	187
Kineton (Fenny Compton)	Miss Knott	5	4 0	436	17·77	...
D Stratford-on-Avon (Guild Street)	Rev. F. Smith	12	4 0	135 T	16·74	188
D Alcester (Ragley Hall)	The Marquis of Hertford	5	1 0	260	19·00	161
D ,, (,, Gardens)	Mr. A. Christie	5	1 0	...	20·43	198
D Warwick (Barford Rect.)	Rev. C. Mills	8	0 11	167 ⅄	19·10	183

DIVISION VI.—WEST MIDLAND COUNTIES—(*continued.*)

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above SeaLevel	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
WARWICK—(*con.*)						
D Southam (Stockton)	Rev. W. Tuckwell	5	1 0	289	18·14	162
Leamington (The Parade)	J. Barnitt, Esq.	5	0 8	195 ⊼	17·28	163
Henley-in-Arden (Barrells Park)	T. H. G. Newton, Esq.	5	1 0	318 T	19·95	169
D Kenilworth (Park Hill)	T. G. Hawley, Esq.	8	0 8	300	20·51	187
D ,, (The Spring)	W. Evans, Esq.	5	1 0	312 ⊼	19·83	183
Rugby School	H. P. Highton, Esq.	5	1 3	383 T	21·67	187
D Coventry (Ryton on Dunsmore)	Mr. Franklin	5	1 2	261 T	22·01	205
D ,, (Priory Row)	J. Gulson, Esq.	8	1 3	279 ⊼	22·07	186
,, (Middlesboro' Ter.)*n. g*	Miss Merry	8	1 0	345 ⊼	23·04	194
,, (Stoke)	J. Gulson, Esq.	8	1 3	241	21·51	195
D ,, (Coundon)	Colonel Caldicott	8	1 11	350 T	24·28	191
D Birmingham (Sheldon Rectory)	Mrs. Jones Bateman	8	1 0	323	21·70	171
D† ,, (Botanic Gardens)	Mr. Latham	5	5 2	505 T	21·97	187
D ,, (The Crescent)	J. J. Gilbert, Esq.	5	21 0	495 T	21·22	174
,, (,, ,,) ...M	,, ,, ,,	5	7 0	480 T	23·08	...
D Bedworth Cemetery	Mr. D. Bosworth	5	1 0	385 T	21·69	157
D Castle Bromwich Hall	Mr. E Gibson	5	1 2	363 ⊼	22·15	214
D Sutton Coldfield	C.F. Marston, Esq., C.E.	5	1 0	363	22·84	187

DIVISION VII.—NORTH MIDLAND COUNTIES.

LEICESTER.						
D Market Harborough (Fairlawn)	R. Symington, Esq.	8	4 0	324 T	19·33	186
Fleckney	J. B. Putt, Esq.	5	1 0	411 T	24·71	...
D†Kibworth Beauchamp	T. Macaulay, Esq.	5	2 6	355 T	21·30	182
D Leicester (Town Hall Square)	E.G.Mawbey, Esq., C.E.	9	1 7	212 ⊼	19·66	152
,, (Humberstone Asy.)*n g*	J.E.M.Finch, Esq., M.D	8	1 0	244 ⊼	20·88	170
D†Thornton Reservoir	F. Griffith, Esq., C.E.	8	1 2	371 ⊼	21·47	159
D Barkby	Rev. E. N. Pochin	8	0 10	221 ⊼	21·46	202
D Thurcaston Rectory	Rev. T. A. Preston	5	1 0	253 T	21·36	177
D ,, (Cropston)	F. Griffith, Esq., C.E.	8	1 0	246 ⊼	22·38	189
D Swithland	,, ,, ,,	8	1 0	...	20·80	184
,, (The Brand)	,, ,, ,,	8	1 0	...	22·32	187
,, (Broombriggs Hill)	,, ,, ,,	8	1 0	...	20·23	191
D Ratcliffe College	Rev. J. Hirst	5	1 0	288 T	21·57	193
D Rotherby Hall	J. Hames, Esq.	5	1 0	250 T	19 37	214
D Melton Mowbray (ThorpeArnold)	Rev. J. S. Swift	8	2 3	336 ⊼	18·80	148
D Loughborough (Nan PantanRes.)	A. W. Cross, Esq., C.E.	8	2 11	269 ⊼	19·84	160
,, (,, ,,)	,, ,, ,,	5	2 0	269 ⊼	20·49	...
,, (Cedar Cottage)	J. Giles, Esq.	5	0 9	327 T	23·36	...
D ,, (Victoria Street)	W. Berridge, Esq.	5	0 10	169 B	19·05	178
,, (,, ,,)	,, ,,	8	0 11	169 B	19·01	178
D Waltham-le-Wolds	Mr. E. Ball	5	1 6	536 ⊼	22·34	178
D†Belvoir Castle	W. Ingram, Esq.	8	1 0	237 T	21·00	183
D Bottesford	Rev. R. M. Norman	8	0 8	100	17·22	115

DIVISION VII.—NORTH MIDLAND COUNTIES—(*continued.*)

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
RUTLAND.						
D Uppingham (West Deyne)	Rev. G. H. Mullins	8	1 6	485 ⅄	18·30	174
D Ketton Hall [Stamford]	F. Coventry, Esq.	5	1 0	130 B	21·29	194
Oakham (Whitwell)	Rev. J. Beecheno	5	1 0	320	17·90	...
D Tolethorpe Hall [Stamford]	C. O. Eaton, Esq.	8	0 8	160 T	21·19	159
Burley-on-the-Hill	Mr. W. Temple	8	1 0	506	20·79	152
D Oakham (Ashwell Lodge)	Westley Richards, Esq.	8	0 5	...	22·18	178
,, (Greetham)	Rev. C. A. Holmes	5	0 4	377 ⅄	21·40	...
D Market Overton	Miss H. E. G. Wingfield	8	0 11	475 T	22·43	208
LINCOLN.						
Stamford (Castle Cottage)	T. Booth, Esq.	5	1 0	...	21·83	...
D ,, (Northfields)	Mr. W. Hayes	5	1 0	166 ⅄	22·00	140
D*Bourne (Wytham-on-the-Hill)	A. C. Johnson, Esq.	5	1 0	167 ?	19·89	106
Long Sutton	Mr. J. Tilson	5	4 0	...	19·42	161
Spalding (Pode Hole)	Mr. A. Harrison	12	0 3	20 ⅄	20·12	...
D Grantham (Stainby)	Rev. W. Thorold	4	0 4	...	22·71	130
,, (Denton Manor)	Sir W Welby Gregory Bt.	...	...	...	21·71	205
D ,, (Little Ponton Rect.)	Rev. P. R. Worsley	5	1 0	...	22·50	191
,, (Saltersford)	H. Preston, Esq.	5	0 6	188 ⅄	19 00	155
,, (Guildhall)	S. G. Gamble, Esq., C.E.	5	13 6	202 ⅄	19·28	172
,, (Heydour Vicarage)	Rev. G. F. Deedes	5	1 10	244 T	17·07	...
D Boston (Grand Sluice)	J. E. Williams, Esq., C.E	8	6 0	22	15·61	171
D ,,	W. H. Wheeler, Esq. C.E	5	4 0	16	15·68	140
Leake (Lade Bank Engines)	J. E. Williams, Esq., C.E	...	...	...	15·49	145
D Wrangle	A. Spurr, Esq.	5	1 0	10 ⅄	17·18	157
D Stubton [Newark]	G. Nevile, Esq.	5	4 6	94 T	20·66	179
Sleaford (Bloxholm)	Mr. D. Lumsden	5	2 0	30	18·29	124
D Wainfleet (Ivy House)	J. Martin, Esq.	5	2 3	...	21·01	116
D Navenby	Rev. J. Hays	8	1 2	216 ⅄	17·31	163
Kirkstead	Mr. R. H. Brett	5	1 2	...	16·39	...
Horncastle (Miningsby)	W. H. Wheeler, Esq. C.E	5	0 6	135 ⅄	17·06	106
D Spilsby	Dr. J. W. Walker	5	1 0	160 T	21·63	175
D ,, (Hagworthingham)	Mr. R. Wright	5	1 1	252 ⅄	19·73	175
D Horncastle (Bucknall)	W. Carter, Esq.	5	1 0	100	18·20	138
,, (Queen Street)	H. George, Esq., M.D.	5	1 0	100	17·15	...
D Lincoln (Branston)	A. S. Leslie Melville, Esq	...	...	120	20·18	126
D† ,, (Boultham)	Mr. F. Terrill	5	1 0	18 ⅄	21·31	136
D ,, (Moorlands, Skellingthorpe)	J. M. Warrener, Esq.	5	1 2	27 T	20·22	120
† ,, (St. Botolphs)	H. Teague, Esq.	5	1 0	25 ⅄	19·87	...
,, (St. Catherine's)	J. H. Teague, Esq.	5	5 0	33 ⅄	19·72	...
D ,, (Doddington)	Rev. R. E. Cole	5	1 2	92 ⅄	18·46	151
,,	M. S. & L. R. Co.‡	9	3 6	26	18·20	140
,, (The Close)	Royal Meteor. Soc.	8	1 0	185	20·45	203
,, (D'Isney Place)	A. H. Leslie Melville Esq	4	1 0	215 L	19·70	129
D ,, (Brayford Wharf)	Mr. J. W. Horton	5	5 8	28 ⅄	20·83	194
,, (The Quarry)	R. Swan, Esq.	8	1 8	186 T	18·80	162

‡ Kept for the Canals Department of the Manchester, Sheffield, and Lincolnshire Railway Company.
Returns supplied by G. Taylor, Esq.

DIVISION VII.—NORTH MIDLAND COUNTIES—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above SeaLevel	Depth of Rain. 1890	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	LINCOLN—(*con.*)						
	Lincoln (Skellingthorpe Hall) ...	R. C. B. Coupland, Esq.	5	1 1	..	17·65	150
D	Horncastle (Hemingby)	Rev. E. S. Bengough ..	5	1 0	158	21·41	170
D	Alford (The Burial Ground).....	Mr. E. Hodgson.....	5	1 0	29 ⅄	20·18	174
D	,, (The Sycamores)	J. E. Mason, Esq.....	8	1 3	22 T	19·48	183
	,, (Sutton-by-the-Sea)	F. Lowry, Esq., C.E.	5	1 0	9 ⅄	13·10	109
D	Farforth (Maidenwell House) ...	Miss H. E. Browne ...	5	1 0	380 T	23·40	206
D	Brattleby	Rev. J. H. White	8	1 1	84	19·06	142
	Gate Burton	M. S. & L. R. Co.....	9	3 6	96	18·20	142
	Louth (Withcall)	R. Swan, Esq.	8	1 8	280 ⅄	18·21	143
D†	,, (Gospelgate)	T. W. Wallis, Esq. ...	5	6 0	111 ⅄	22·42	154
†	,, (Westgate)	Dr. F. Fawssett.....	5	0 9	120 ⅄	24·39	166
D	Market Rasen.....	Mr. W. B. Jevons.....	5	0 8	84	22·66	126
	,, ,, ...	M. S. & L. R. Co.	9	...	100	18·83	130
	Gainsborough.....	,, ,, ,, ...	9	...	76	19·34	144
	Stockwith	,, ,, ,, ...	9	3 6	21	19·92	148
	Caistor	Rev. R. Thomas.....	5	0 9	283 ⅄	20·49	134
	Wroot Engine	A. L. Peace, Esq., C.E.	10	6 0	...	21·05	142
	Brigg	M. S. & L. R. Co.	9	3 6	16	17·25	174
D	,, ...	A. Atkinson, Esq.,C.E.	8	1 2	10 T	21·70	149
	Grimsby (Aylesby)	S. McAulay, Esq.	5	1 6	...	22·30	160
	,, ...	M. S. & L. R. Co.	9	15 0	42	18·17	137
	Barnetby.....	,, ,, ,, ...	9	3 6	51	18·76	163
D	N.LevelEngine[ThorneDonc'st'r]	A. L. Peace, Esq., C.E.	5	2 3	...	20·65	146
	Crowle (Keadby)	M. S. & L. R. Co.	9	...	10	17·77	151
	Appleby	Rev. Canon Cross	5	0 9	60 L	20·59	141
D	Barton-on-Humber (Saxby Rec.)	Rev. R. Drummond Ash	5	2 6	...	19·60	153
D	Burton-on-Stather Vicarage.....	Rev. F. A. Jarvis	5	0 6	212 T	23·15	193
	Ferriby Sluice	Rev. Canon Cross	5	0 9	10	20·35	...
	New Holland	M. S. & L. R. Co.	9	3 6	18	16·17	152
	NOTTS.						
D	Kingston Hall [Loughborough]..	Mr. W. English.....	5	0 8	...	20·16	158
	Cropwell Bishop (CropwellGrove)	H. Smith, jun., Esq.....	5	1 1	160 T	19·51	...
D	Stapleford Hall	Col. Ichabod Wright..	5	1 0	132 ⅄	19·99	179
D	Nottingham (Beeston Fields) ...	G. Fellows, Esq.	5	0 9	206 ⅄	22·01	184
	,, (Cromwell Street) ..	Miss L. E. Booker.....	5	0 6	191 ⅄	19·22	...
D	,, (The Castle)	A. Brown, Esq., C.E...	8	1 2	192 ⅄	17·70	149
	,, (,, ,,)	,, ,, ,, ...	8	76 0	268 ⅄	15·73	147
D	,, (StokeBardolphSewFm)	Mr. J. Avis.....	8	6 7	80	18·35	164
D	,, (Strelley Hall)	T. L. K. Edge, Esq. ...	8	1 0	396 ⅄	23·46	184
D	,, (Mapperley Hill) ...	E. Powell, Esq.	8	1 0	400	20·32	143
D	,, (,, Hall).....	Col. Ichabod Wright...	5	1 0	325 T	20·41	177
	Bulwell (Springfield).....	G. W. Walker, Esq....	5	0 9	166	23·03	...
	Newark (Shelton Rectory)	Rev. R. W. Marriott...	5	2 2	80?	18·45	...
D	Eastwood Colliery	Mr. E. Lindley	5	1 0	245 T	22·96	183
	Newark (East Stoke).....	Miss Stanton	5	1 3	...	*18·48*	...
D	Hucknall Torkard (Forge Mills)	J. D. Walker, Esq.....	5	1 0	200 ?	19·15	181
	Annesley Park	Mr. A. Young	8	2 6	560	20·88	145

DIVISION VII.—NORTH MIDLAND COUNTIES—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	NOTTS—(*con.*)						
D	Southwell (Grants)	T. L. K. Edge, Esq.	5	1 0	97 ⅄	22·99	187
D	Mansfield (Forest Villa)	S. W. Wright, Esq.	5	3 0	450	27·00	145
D	Ollerton (Thoresby Gardens)	Mr. A. Henderson	8	4 0	175	23·28	114
D	Tuxford (Ragnall)	Rev. A. F. Claydon	6	1 0	32 T	20·61	145
	Worksop	M. S. & L. R. Co.	9	3 6	127	20·61	136
D	,, (Osberton Gardens)	S. A. Woods, Esq.	5	4 0	...	20·23	148
	Retford	M. S. & L. R. Co.	9	3 6	52	21·47	173
D	,, (Babworth Hall)	Col. Denison	5	0 6	92 ⅄	20·23	171
D	Worksop (Hodsock Priory)	H. Mellish, Esq.	8	1 0	56 ⅄	21·19	174
	,, (,, ,,) M	,, ,,	5	1 0	56 ⅄	20·47	...
	The Gardens [Bawtry Hall]	L. T. Baines, Esq.	5	1 3	31 T	19·46	119
D	Hesley Hall [Tickhill]	B. I. Whitaker, Esq.	8	0 11	61 T	19·60	166
	DERBY.						
D	Stapenhill [Burton]	R. W. Abbotts, Esq.	5	4 0	170	20·38	199
D	,, [,,]	A. J. Brown, Esq.	5	1 0	...	20·32	185
D	Melbourne (The Grange)	Miss Tasker	5	0 3	...	22·31	146
	,,	Mr. W. Garratt	5	1 0	182 ⅄	20·20	..
	Willington	Rev. G. A. Smallwood	5	1 0	150 T	19·27	164
	Derby (Findern)	Rev. B. W. Spilsbury	5	0 9	186 ⅄	20·15	...
D	,, (Etwall)	Mr. R. Giles	5	1 0	...	18·05	147
D	,, (Elvaston)	H. Chambers, jun. Esq	5	1 0	...	19·31	180
D	Mickleover Manor	Mr. J. Campbell	5	2 0	280	22·62	141
D	Derby (All Saints' Works)	Messrs. J. Davis & Son	5	1 0	174	21·36	179
D	,, (Holmside, Hazelwood)	C. H. B. Hambly, Esq.	5	1 3	500 T	24·63	197
	,, (,, ,,) M	,, ,, ,,	8	1 3	500 T	24·15	...
D	,, (Breadsall Lodge)	W. B. Woodforde, Esq	5	1 3	280 T	21·45	182
	Belper (Chevin, Hazelwood)	Sir J. G. N. Alleyne, Bart.	5	4 6	545	22·37	189
D	,, (Northfield)	J. Hunter, Esq., C.E.	8	0 8	225	27·14	177
D	Matlock (The Gables)	R. Wildgoose, Esq.	5	1 0	450 T	30·78	176
†	,, Bath	Mrs. Chadwick	5	1 6	500 T	26·30	...
D	Stretton (Lindway Res.)	Mr. Peers	5	4 3	447 ⅄	18·32	153
D	Stuffynwood Hall [Mansfield]	J. Paget, Esq.	5	1 3	389 T	25·47	197
	Chesterfield (Hardwick Hall)	Mr. Wilson	8	1 6	594 T	27·67	186
D	Chatsworth Gardens	O. Thomas, Esq.	8	5 0	404 T	29·43	197
D	Chesterfield (Gas Works)	C. E. Jones, Esq., C.E.	5	1 0	279	23·89	162
	,,	M. S. & L. R. Co.	9	3 6	248	23·27	162
D	,, (Linacre Reservoir)	C. E. Jones, Esq., C.E.	8	3 6	490 ⅄	22·46	154
	,, (Tapton House)	Mr. G. Parkes	8	1 6	...	25·31	...
	,, (,, Grove)	M. F. Mills, Esq.	5	3 1	400	23·35	...
D†	Buxton (Devonshire Hospital)	Mr. W. H. Beck	5	1 0	986 ⅄	49·65	218
	Stony Middleton	Mr. Wadlow	5	4 0	660	34·63	186
†	Comb's Moss	M. S. & L. R. Co.	9	3 6	1669 T	34·44	...
†	,, Reservoir	,, ,, ,,	9	3 6	710 T	34·28	220
†	Chapel-en-le-Frith	,, ,, ,,	9	3 6	965 T	36·55	200
†	Killamarsh (Norwood)	,, ,, ,,	9	3 6	238 T	22·07	165
	Norton [Sheffield]	Col. Creswick	6	0 9	700 T	27·62	...
	Hathersage (Bamford)	W. C. Moore, Esq.	5	1 0	530 T	32·04	...
†	Glossop (Spire Hollin)	F. Hawke, Esq.	8	0 10	612 T	38·48	...
	Woodhead Station	M. S. & L. R. Co.	9	3 6	878 T	43·53	232

DIVISION VIII.—NORTH WESTERN COUNTIES.

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above SeaLevel	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
CHESHIRE.						
D Baddiley (Nantwich W. W.) ...	Baldwin Latham Esq CE	5	1 0	231	26·37	161
D Nantwich (Dorfold Hall)	J. A. Saner, Esq.	8	1 6	190	27·67	152
Eccleston	E. Wells, jun., Esq. ...	5	1 1	94 ⅄	25·11	186
D Congleton (Buglawton Vic.).....	Rev. W. Besant.....	8	5 0	347 T	30·92	175
Bosley Reservoir	M. S. & L. R. Co.	9	3 6	590 T	30·75	207
,, Minns	,, ,, ,, ...	9	3 6	1210 T	30·49	203
Macclesfield (Wincle)	E. B. Smith, Esq., C.E.	5	3 0	500	37·06	205
D Chester (Rowton Grange)	T. R. Fleming, Esq. ...	5	1 0	164 B	25·18	177
D ,, (Christleton Hall)	Mr. T. Weaver	5	1 2	142 ⅄	24·48	197
D ,, (Waterworks)	J. Dugdale, Esq.	5	0 10	85 ⅄	25·10	177
,, (Northgate Station).....	M. S. & L. R. Co.....	9	3 6	84 T	25·86	165
D† ,, (The Nurseries)	Messrs. Dicksons, Lim.	5	1 0	62 ⅄	27·93	183
Middlewich (Bostock Hall)	Col. France Hayhurst..	5	2 0	157 ⅄	27·31	149
D Siddington (Thornycroft Hall)...	Mr. J. Harrison.....	5	3 0	377	31·95	206
D Macclesfield (The Park)	Mr. J. Dale.....	5	1 0	501 T	33·24	205
D Chelford (Astle Hall)	G. Dixon, Esq.	5	1 0	250 T	27·43	171
,, (,, ,,) .....M	,, ,, ,, ...	8	1 0	250 T	27·45	...
Northwich	M. S. & L. R. Co.....	9	3 6	76 T	23·65	171
D ,, (Highfield)	J. A. Saner, Esq., C.E..	8	3 4	118 ⅄	26·81	196
D ,, (Winnington).....	Mssrs Brunner Mond & Co	5	3 8	110 ⅄	24·38	224
,, (Wincham Hall) ...	H. Neumann, Esq.....	8	2 0	120	28·22	180
D Macclesfield (Swanscoe Park) ...	T. C. Horsfall, Esq. ...	5	1 0	676 ⅄	33 84	223
D*Neston (Hinderton)	Reginald Bushell, Esq.	5	1 0	215 ⅄	28·03	185
* ,, (,,) .....M	,, ,, ,, ...	8	1 0	215 ⅄	28·64	...
,, (,, Lodge) ...M	,, ,, ,, ...	5	1 0	145 ⅄	27·28	...
Frodsham (Fox Hill).....	J. Reynolds, Esq.	5	0 10	330 T	25·32	180
D ,, (Dunsdale)	J. Simpson, Esq.	5	1 1	206	27·20	194
D Knutsford (Heath Side)	W. Tyrer, Esq.	5	1 0	210	28·86	214
Bollington (Spond's Hill).....	M. S. & L. R. Co.	9	3 6	1279 T	31·97	...
Wilmslow (Southside)	G. Pearson, Esq.	8	1 0	255 T	27·99	180
D ,, (Poplar House).....	J. Holden, Esq.	5	1 0	237 T	27·42	178
†Whaley	M. S. & L. R. Co.	9	3 6	602 T	40·35	220
D Thurstaston (Dawpool).....	T. H. Ismay, Esq.	...	...	...	26·58	142
D Runcorn (Weston Point)	J. A. Saner, Esq., C.E.	4	2 4	18	27·30	147
D West Kirby (Greenfield)	H. Bell, junr.....	5	1 0	75 T	25·46	180
D Hill Cliffe [Warrington]	J. Marson, Esq.	5	1 0	159 ⅄	27·87	195
Bowdon (The Firs).....	R. Swindells, Esq., C.E.	5	0 8	215 ⅄	27·66	...
D Thelwall (Highfields)	T. G. Rylands, Esq. ...	5	1 0	118 ⅄	26·40	187
,, (,,) .....M	,, ,, ,, ..	5	1 0	118 ⅄	26·26	...
D ,, (Millington House) *old g*	L. W. Reynolds, Esq..	5	1 0	82 ⅄	27·89	186
D ,, (,, ,,) ...	,, ,, ,, ...	5	1 0	85 ⅄	27·30	186
D Lymm (Statham Lodge)	P. Stubs, Esq.	5	1 0	42 ⅄	26·44	188
,, (,, ,,) .....M	,, ,, ...	5	1 0	42 ⅄	26·88	...
Altrincham (Norman's Place) ...	A. Griffiths, Esq.	5	1 0	150 T	28·65	171
,, (Barrington House).	J. Newton, Esq., C.E.	8	3 0	105	27·97	...
D Cheadle (Harthill).....	R. A. Grundy, Esq. ...	5	1 0	142 T	26·47	183
D Hoylake (The Chase East)	J. F. Leigh Clare, Esq.	5	0 11	29 T	22·18	181
D†Birkenhead (Bidston Obs.)	J. Hartnup, Esq.	8	1 0	189 ⅄	26·82	199

DIVISION VIII.—NORTH WESTERN COUNTIES—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	CHESHIRE—(*con.*)						
D	Northenden (Wythenshawe).....	T. E. Tatton, Esq. ...	5	1 0	114 T	26·63	168
	Marple Top Lock	M. S. & L. R. Co.	9	3 6	543 T	31·57	207
	,, Aqueduct	,, ,, ,, ...	9	3 6	321 T	29·52	180
	New Brighton (Stanley Rock) ...	A. C. Abraham, Esq...	5	1 0	130 B	25·51	193
	Godley Reservoir	G. H. Hill, Esq., C.E..	12	...	500	30·54	...
	Newton	M. S. & L. R. Co.	9	3 6	396 T	26·32	169
	Mottram (Hill End)	,, ,, ,, ...	9	3 6	680 T	33·63	190
	,, (Matley's Field).....	,, ,, ,, ...	9	3 6	399 T	31·53	188
D	Hadfield (Millbrook).....	J. Sidebottom, Esq. ...	12	3 10	442 T	36·32	207
D	,, (,,).....	,, ,, ,, ...	8	3 10	442 T	35·92	207
	Arnfield Reservoir..... ..	G. H. Hill, Esq., C.E..	12	2 6	550	35·79	...
	†Rhodes Wood Reservoir	,, ,, ,, ...	12	1 0	520	42·57	...
	†Torrside Reservoir.....	,, ,, ,, ...	12	1 6	680	43·62	...
	Staleybridge (Swineshaw).....	,, ,, ,, ...	8	3 0	884 ⅄	45·71	...
	†Woodhead Reservoir.....	,, ,, ,, ...	12	0 10	660	46·49	...
	LANCASHIRE.						
D	Garston (Grassendale Park).....	Miss E. C. Abraham ...	5	1 0	35 T	28·13	203
D	Aigburth (Kelton).....	J. Sing, Esq.	5	1 0	150 T	28·93	192
D	,, (Holmfield)	Miss Maxwell.....	5	1 0	100 T	29·26	195
D	Warrington (Howley)	T. Longdin, Esq.	10	0 10	19 ⅄	26·79	192
	,, (Central Station) ...	M. S. & L. R. Co.....	9	...	59 ⅄	24·97	156
	Liverpool (Grove Park).....	J. R. Darsie, Esq.....	4	6 0	160	27·38	191
D	,, (Hope Street)	G. Jevons, Esq.....	5	1 0	150	27·39	205
	,, (Huskisson Station) ...	M. S. & L. R. Co.	9	...	40 ⅄	30·28	193
	,, (St. James's Mount)...	Rev. W. Banister	5	1 1	150 ⅄	27·97	...
	Heaton Moor [Stockport] ...*old g*	F. W. Jordan, Esq. ...	5	1 0	235	28·78	179
D	,, ,, [,,].....	,, ,, ,, ...	5	1 0	235	28·99	179
D	Walton (Breeze Hill)	WHAndersson,jun,Esq	5	1 11	119 ⅄	28·70	191
	,, (,,)	,, ,, ,, ...	8	1 2	119 ⅄	29·18	191
D	Manchester (Withington) No. 2	J. King, jun., Esq. ...	5	1 3	110 T	26·50	172
D	,, (,,) No. 3	,, ,, ,, ...	8	1 6	110 T	26·29	172
D	,, (Stretford)	H. Royle, Esq., C.E....	5	1 0	86 ⅄	27·31	205
D	,, (LadyBarn,Fallowfield)	Miss Herford	5	1 0	...	28·61	193
	Denton Reservoir	G. H. Hill, Esq., C.E..	...	...	324 T	28·60	...
	Gorton.....	,, ,, ,,	...	...	263 T	29·03	...
D	Manchester (Plymouth Grove)...	J. F. Roberts, Esq. ...	5	4 2	150 ⅄	29·18	179
	,, (Embden Street) ...	J. Hart, Esq..	5	6 6	112 T	34·26	181
†	,, (Piccadilly)	M. S. & L. R. Co.	9	40 0	194 T	26·07	170
	,, (Fairfield)	,, ,, ,, ...	9	6 0	312 T	31·43	199
D	,, (Alexandra Park) ...	J. Casartelli, Esq.....	8	3 0	100 T	27·54	181
D	,, (,, ,,) ...	Rev. L. C. Casartelli...	8	1 11	95 B	27·85	206
	Blundellsands (Park Corner) ...	T. M. Reade, Esq. C.E.	5	1 0	33 ⅄	29·14	215
D	Manchester (Newton Heath).....	J. Warren, Esq.....	5	1 0	275 ⅄	32·77	208
D	,, (Cheetham Hill).....	W.B.Worthington,Esq	5	0 11	255	30·64	204
	Ashton (Waterhouses)	M. S. & L. R. Co.	9	3 6	345 T	32·71	196
	Prestwich Asylum.....	The Meteor. Council ...	8	1 0	295	33·87	208
	,, Reservoir	G. H. Hill, Esq., C.E.	...	...	356 T	32·05	...

DIVISION VIII.—NORTH WESTERN COUNTIES—(*continued.*)

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
LANCASHIRE—(*con.*)						
†Oldham (Gas Works)	G. H. Hill, Esq., C.E...	5	4 0	600 T	34·48	...
,, (Honeywell Lane)	M. S. & L. R. Co.	8	...	553	36·12	202
,, (Brushes Clough)	G. H. Hill, Esq., C.E.	5	4 0	930 T	40·95	...
,, (,, ,,)*New g*	,, ,, ,, ...	5	5 0	955 T	40·22	...
Ormskirk (Aughton Springs)	G. Cooke, Esq.	5	0 6	150	30·52	...
D Wigan Waterworks	W. Bolton, Esq.	8	1 6	225 T	34·29	197
Bolton-le-Moors (The Folds)	W. H. Watson, Esq....	10	3 6	286 T	43·95	...
D ,, (The Park)	W. W. Midgley, Esq..	5	1 0	390 T	42·25	215
,, (Heaton)	RHSwindlehurstEsqCE	6	1 3	500	38·30	249
D ,, (,,)	J. S. Holdsworth, Esq.	10	3 6	497 ⊼	43·14	201
D ,, (Ash Lawn, Heaton)	F. Taylor, Esq.	5	0 6	...	45·46	209
D ,, (Hurst Bank)	J. Watkins, Esq.	5	3 10	442 ⊼	43·12	234
D ,, (Moss Bank)	R. H. Ainsworth, Esq..	8	1 6	575 ⊼	48·29	199
D ,, (Smithills Hall)	,, ,, ,,	8	1 2	507 T	*46·75*	200
Bury (Gin Hall)	T. Rigby, Esq.	8	1 0	475	41·19	166
† Milnrow (Piethorne, Kitcliff)	G. H. Hill, Esq., C.E.	5	4 0	767 T	29·75	...
,, (,, Coldgreave)	,, ,, ,, ...	5	4 2	894 T	39·35	...
Rochdale (Deeplish Hill)	J. H Lancashire, Esq.	5	1 0	500 T	38·59	223
,, (Park Observatory)	Dr. Henry	8	0 8	472	40·96	233
D ,, (Fieldhead)	S. S. Platt, Esq., C.E..	8	12 0	484 ⊼	37·92	200
D Ormskirk (Rufford)	J. Porter, Esq.	5	0 8	38 T	31·44	206
Bolton (Belmont)	RHSwindlehurstEsqCE	6	0 9	800	63·10	259
D Southport (Birkdale)	J. Baxendell, Esq.	5	1 0	29 T	30·98	208
,, (,,)....M	,, ,, ...	5	1 2	29 T	30·81	...
D†Rochdale (Facit)	T. S. Smithson, Esq....	5	0 6	855 T	48·63	237
D Southport (Hesketh Park)	J. Baxendell, Esq. ...	5	2 8	23 ⊼	33·84	197
,, (Lord Street Station)	M. S. & L. R. Co.	9	...	21 ⊼	27·79	177
Entwistle	RHSwindlehurstEsqCE	7	1 0	700	56·00	258
Blackstone Edge (Hollingworth)	Rochdale Canal Compy‡	10	1 5	600	38·20	...
† ,, ,, (Windy Bank)	,, ,, ,, ...	10	1 6	600	32·10	...
† ,, ,, ...	,, ,, ,, ...	10	1 9	1225	32·70	...
† ,, ,, (Canal Summit)	,, ,, ,, ...	10	1 10	700	32·40	...
† ,, ,, (Chelbourn)	,, ,, ,, ...	10	1 3	800	38·00	...
,, ,, (Lenches)	,, ,, ,, ...	10	1 10	800	43·80	...
† ,, ,, (Calf Lee)	,, ,, ,, ...	10	1 6	960	34·70	...
Chorley (Crooke Hall)	Carlton Cross, Esq. ...	5	2 6	265 T	38·58	202
Haslingden (Holden Wood)	T. Rigby, Esq.	8	1 0	670	52·91	188
,, (Calf Hey)	,, ,, ...	8	1 0	800	52 48	188
Over Darwen (Sunnyhurst Hey)	T. Duxbury, Esq.	8	2 0	915 T	44·66	...
,, ,, (Earnsdale Res.)	,, ,, ...	8	2 0	...	58·82	...
D ,, ,, (St. James's Vic.)	Rev. W. H. Blamire...	5	1 0	564 ⊼	48·67	206
,, ,, (Hoddlesden Res.)	J.B.McCallumEsq.,C.E	8	4 0	680	53·97	217
,, ,, (Pickup Bank)	,, ,, ,,	8	1 0	720 ⊼	46·36	194
Blackburn (Guide Reservoir)	,, ,, ,,	8	1 0	650	38·40	198
D Oswaldtwistle Waterworks	R. N. Hunter, Esq. ..	6	0 6	635	50·33	192
D Lytham (Woodville Terrace) *n g*	S. Stott, Esq.	5	0 8	...	31·79	219
Blackburn (Pleasington)	J.B.McCallumEsq.,C.E	8	2 6	232 ⊼	42·73	...

‡ Returns supplied by C. R. Dykes. Esq.

DIVISION VIII.—NORTH WESTERN COUNTIES—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above Sea level feet.	Depth of Rain. 1890 inches.	Days on which ·01 or more fell.
	LANCASHIRE—(*con.*)							
	Blackburn (Witton)	J.B.McCallum,Esq.,CE	8	2	6	315 ⊼	44·60	197
	,, (Store Yard)	,, ,, ,,	8	30	0	373 ⊼	35·56	195
	,, (Water Works Office)	,, ,, ,,	8	60	0	436 ⊼	31·60	...
	,, (Pumping Station)	,, ,, ,,	8	6	0	600 ⊼	42·35	...
D	Accrington (Milnshaw Grounds)	Mr. Hargreaves	5	1	6	464 ⊼	36·42	204
D	Preston (Corporation Offices)	H. Reah, Esq.	8	16	0	123	38·31	190
	†Rawtenstall (Clough Bridge Res.)	T. Rigby, Esq.	8	1	0	900 ⊼	44·35	223
Burnley Waterworks	†Causeway Side	W. Williamson, Esq.	8	2	0	1116	43·23	...
Burnley Waterworks	†Sheddin	,, ,, ,,	8	2	0	960	43·03	...
Burnley Waterworks	†Cant Clough, S. Side	,, ,, ,,	8	2	0	900	42·14	223
Burnley Waterworks	† ,, ,, N. Side	,, ,, ,,	8	2	0	900	40·34	223
Burnley Waterworks	†Rams Clough Head	,, ,, ,,	8	2	0	1260	40·47	...
D	Huncoat (Burnley Road Res.)	C. Harrison, Esq.	9	1	6	620 ⊼	44·95	214
	Clayton-le-Moors (Oakenshaw)	J. H. Calvert, Esq.	5	9	6	290 T	41·03	...
†	Burnley (Yorkshire Street)	W. Williamson, Esq.	8	30	0	420 ⊼	43·90	208
†	,, (Swinden, Upper)	,, ,, ,,	8	12	0	820 ⊼	42·89	224
†	,, (,, Lower)	,, ,, ,,	8	2	0	745 ⊼	44·03	224
†	,, (Extwistle Moor)	,, ,, ,,	8	2	0	1310 T	42·66	...
D	,, (Gawthorpe Hall)	Sir U.K.Shuttleworth Bt	8	0	9	316 T	*41·78*	175
D	Preston (Haighton)	J. J. Myres, Esq., C.E.	5	1	2	255 ⊼	42·15	196
	Alston	H. Reah, Esq.	8	1	2	320 ⊼	39·80	...
	Blackpool (South Shore)	G. Sharples, Esq.	10	1	8	29 T	37·70	...
D	,,	J. Wolstenholme, Esq.	5	1	0	62 ⊼	38·12	194
	Kirkham (Weeton)	C. Arthur, Esq.	10	1	0	95 T	39·12	...
	Nelson (Coldwell Reservoir)	J. Newton, Esq., C.E.	8	2	0	950	34·95	...
D	Eccleston (Elswick Lodge)	S. King, Esq.	10	1	4	50 T	35·52	205
	,, (,, ,,) Field	,, ,, ,,	5	1	0	50 T	39·30	...
	,, (,, ,,) ,,	,, ,, ,,	5	6	0	56 T	36·88	...
D	Stonyhurst College	Rev. W. Sidgreaves	11	1	0	376 ⊼	50·30	215
D	,, ,,	,, ,, ,,	11	2	0	377 ⊼	50·16	216
	,, ,, ...M	,, ,, ,,	11	1	0	376 ⊼	50·59	...
Preston W. Works.	Knowle Green	H. Reah, Esq.	8	1	2	400 T	40·35	...
Preston W. Works.	Loud-scales	,, ,,	8	1	2	400 T	47·95	...
Preston W. Works.	Spade Mill	,, ,,	8	1	2	400 T	39·45	...
Preston W. Works.	Jeffrey Hill	,, ,,	8	1	2	900 T	50·65	...
D	St. Michael's-on-Wyre No. 2	Rev. P. J. Hornby	5	1	0	26 ⊼	40·21	204
D	,, ,, Vic. No. 3	,, ,, ,,	5	1	0	26 ⊼	37·46	203
D	Beaton Fell (Barnsfold Res.)	J. J. Myres, Esq., C.E.	5	1	6	506 ⊼	46·37	216
	,, (,,) ....M	,, ,, ,,	5	1	6	506 ⊼	46·37	...
D	Garstang (Calder Mount)	Sydney Wilson	5	10	0	110 ⊼	39·62	212
	,, (,, ,,) ....M	,, ,,	5	1	0	71 ⊼	41·54	...
	Clitheroe (Downham Hall)	R. Assheton, Esq.	10	1	6	464 ⊼	42·55	...
	Chatburn (Middlewood)	W K Wilkinson, jnr. Esq	5	1	3	363 T	*44·84*	
	Garstang (Barnacre Reservoir)	C. Arthur, Esq.	10	1	0	617 ⊼	50·30	...
	,, (Grizedale Reservoir)	,, ,, ,,	10	1	0	519 T	48·15	...
	Wyresdale (Abbeystead)	J. Cook, Esq., C.E.	8	1	0	366 T	52·85	177
	,, (Old Gauge Basin) M	,, ,, ,,	8	1	0	963 T	43·85	...
	,, (Wardstone) ....M	,, ,, ,,	8	1	0	1440 T	55·15	...

DIVISION VIII.—NORTH WESTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height above Ground.	Height above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
LANCASHIRE—(*con.*)						
D Lancaster (Southfield)	Miss Roper	12	3 6	114 ⩓	42·68	237
,, (Marton Street Yard)	J. Cooke, Esq., C.E.	8	1 9	70 ⩓	39·68	199
,, (Escowbeck, Caton)	A. Greg, Esq.	10	3 0	150 T	46·50	215
Hest Bank	T. Ransome, Esq.	5	2 0	58 T	37·40	201
D Wray Vicarage	Rev. C. L. Reynolds	5	1 0	165 T	47·73	225
Melling (Hornby Castle)	Col. Foster	8	1 8	100	42·42	176
Barrow-in-Furness	W. Fergusson, Esq.	11	1 6	36 ⩓	46·12	198
Arkholme (Storrs Hall)	F. F. Pearson, Esq.	5	1 0	220	47·71	...
D Ulverston (Urswick)	Rev. R. B. Billinge	5	2 6	...	48·62	209
†Cartmel (Holker)	Mr. W. Fox	8	4 8	155 ⩓	45·44	195
Grange (Kents Bank House)	Eli Milnes, Esq.	5	1 0	20	43·81	204
,, (Nutwood)	Rev. E. Massie	5	2 6	100 B	44·59	224
D†Ulverston (Poaka Beck)	Mr. W. Fergusson	11	1 6	512 ⩓	58·78	239
D Cartmel (Pit Farm)	Mr. W. R. Nash	5	1 0	122 T	48·17	234
,, (Broughton Hall)	Col. Ainsworth	5	2 8	210 ⩓	49·84	207
D Ulverston (Colton)	Rev. A. Christopherson	5	1 0	226 ⩓	60·29	213
D Broughton-in-Furness	Rev. F. A. Malleson	5	1 3	40	68·68	181
D Blawith	Rev. J. Ashburner	5	0 10	185 T	63·98	217
D†Broughton (Woodland Rectory)	Rev. E. C. Shawfield	5	1 4	100 T	61·91	193
D Hawkshead (Grizedale Hall)	W.G.Ainslie,Esq.,M.P.	5	1 0	325	63·92	213
D ,, (Esthwaite Lodge)	Major Alcock-Beck	5	3 6	232 T	67·22	220
,, (,, Strickland Ease)	,, ,, ,,	5	3 6	254 T	60·96	...
D†Duddon Valley (Seathwaite Vic.)	Rev. S. R. M. Walker	5	1 0	330 T	85·65	226
D†Monk Coniston Park	V. Marshall, Esq.	5	1 4	305 T	83·91	214
Hawkshead (Black Fell)	S. A. Marshall, Esq.	5	1 6	1055 T	60·67	...
D Skelwith Fold [Ambleside]	,, ,, ,,	5	1 0	333	77·33	228
,, ,, [,,] ...M	,, ,, ,,	5	1 0	333	77·30	...

DIVISION IX.—YORKSHIRE.

WEST RIDING.						
†Sheffield (Brincliffe Rise)	A. W. Chadburn, Esq.	5	1 0	500 T	27·68	165
† ,, (,, Edge)	M. S. & L. R. Co.	9	3 6	336 T	26·61	147
† ,, (Redmires)	E. M. Eaton, Esq., C.E.	10	5 0	1110 ⩓	38·58	216
,, (,,) ..... *weekly*	,, ,,	8	4 0	1110 ⩓	38·18	...
D ,, (Tylecote, Ranmoor)	J. Dixon, Esq.	10	3 6	610 ⩓	34·04	180
,, (,, ,,)Snowdon	,, ,,	5	1 0	610	31·19	180
D† ,, (Broomhall Park)	D. Doncaster, Esq.	10	2 0	330 ⩓	25·76	175
,, (Rivelin)	E. M. Eaton, Esq., C.E.	10	4 0	564 ⩓	33·70	193
,, (,,) ..... *weekly*	,, ,, ,,	8	4 0	564 ⩓	32·91	...
† ,, (Crookes)	,, ,, ,,	10	2 0	629 ⩓	25·55	161
† ,, (,,) ..... *weekly*	,, ,, ,,	8	2 0	629 ⩓	25·79	...
D ,, (Weston Park)	E. Howarth, Esq.	8	1 0	430 ⩓	27·05	172
D†Rotherham (Ulley Reservoir)	Mr. L. Berry	5	1 0	184 ⩓	18·49	127
†Sheffield (Victoria Station)	M. S. & L. R. Co.	9	3 6	188 T	20·54	153
† ,, (Tinsley Locks)	,, ,, ,,	9	...	143 T	20·22	146
Tickhill (Sandbeck Park)	Mr. G. Summers	8	1 0	150 T	21·66	162
†Rotherham (Moorgate Grove)	R. Chrimes, Esq.	5	1 0	262 ⩓	23·09	183
,, (Thrybergh)	W.H.Crabtree,Esq.C.E	8	1 0	184 ⩓	21·82	139
D Tickhill	G. G. Phillips, Esq.	8	1 0	61 ⩓	21·40	169

DIVISION IX.—YORKSHIRE—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground.	Rain Gauge. Height Above Sea level	Depth of Rain. 1890	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	WEST RIDING—(*con.*)						
D	Sheffield (Chapeltown)	Mr. D. Bell	8	4 0	582 L	24·08	184
	Doncaster (Firsby)	W.H.Crabtree,Esq.C.E	8	1 0	189 ⅄	24·07	156
D	,, (Wadworth Hall)	Rev. J. C. Ross	8	1 0	...	21·26	171
D	,, (,, ,,)	,, ,,	5	1 0	...	21·27	171
D	Bolsterstone (Waldershaigh)	C. M. Wilson, Esq	8	3 1	950 T	28·73	227
	Wortley	M. S. & L. R. Co.	9	...	548	28·20	181
	Elsecar	,, ,, ,,	9	...	175 T	22·03	156
D	Wath-upon-Dearne (Chapel St).	Dr. Burman	8	1 0	185 ⅄	21·64	175
D	,, (West Melton)	W. Jackson, Esq.	6	0 10	172 T	20·19	129
	Worsborough	M. S. & L. R. Co.	9	...	225 T	22·45	175
D	Stainborough(Wentworth Castle)	W. Fisher, Esq	8	2 6	520 T	26·71	175
	Doncaster	M. S. & L. R. Co.	9	...	35 T	20·90	178
	,, (Pumping Station)	WHR.Crabtree,EsqCE	8	0 6	30 ⅄	22·12	124
D	,, (Magdalens)	Mr. J. Howorth	5	4 6	46 T	21·92	158
†	Dunford Bridge Station	M. S. & L. R. Co.	9	3 6	954 T	40·61	206
†	,, ,, (Reservoir)	G. H. Hill, Esq., C.E.	12	2 0	1100 T	41·63	...
†	Penistone (Carlcotes)	M. S. & L. R. Co.	9	3 6	1075 T	?28·58	208
†	,,	,, ,, ,,	9	3 6	717 T	29·06	186
	,, (Hazlehead)	,, ,, ,,	9	...	868 T	37·13	195
	,, (Ingbirchworth Res.)	J. H. Taylor, Esq. C.E.	8	1 3	853 ⅄	36·97	192
D	Holmbridge (Yateholme)	O. J. Kirby, Esq., C.E.	7	1 0	861 ⅄	56·60	172
	,, (Holme Styes)	Mr. L. Hinchliffe	7	2 0	830	39·40	...
	,, (Boshaw Whams)	,, ,, ,,	7	2 6	930	41·20	...
	,, (Bilberry Reservoir)	,, ,, ,,	7	2 6	820	44·50	...
†	,, (Wessenden Head)	J. Stanway, Esq.	8	...	1270	46·82	...
D	Barnsley (Church Street)	Dr. Sadler	5	5 2	350 ⅄	22·10	179
	,, (Wellington Street)	J. H. Taylor, Esq., C.E.	8	15 0	350	21·18	162
	,,	M. S. & L. R. Co.	9	...	175 T	20·01	170
†	Saddleworth Station M	L. K. Jones, Esq	5	4 2	630 T	38·72	...
D	Barnsley (Cawthorne)	Rev. C. T. Pratt	5	1 6	340 ⅄	26·25	163
	Strinesdale [Oldham]	G. H. Hill, Esq., C.E.	5	4 0	815	31·02	...
†	Meltham (Harden Moss)	J. Stanway, Esq.	8	1 2	1212 T	43·93	...
	Standedge (Castleshaw)	G. H. Hill, Esq. C.E.	...	...	876	40·73	...
†	,, (Red Brook)	L. K. Jones, Esq.	8	1 8	1150	*46·84*	...
†	Meltham (Brow Grains)	J. Stanway, Esq.	...	...	900	44·62	...
	Denshaw (Ox Hey)	G. H. Hill, Esq., C.E.	...	...	1030	39·09	...
	,, (New Year's Bridge)	,, ,, ,,	5	4 0	1012 T	38·91	...
	,, (Ready Con Dean)	,, ,, ,,	...	...	1414	35·34	...
D†	Meltham (Harewood Lodge)*old g*	C. L. Brook, Esq.	8	4 10	514 L	34·22	209
D	,, (,, ,,)*new g*	,, ,, ,,	8	1 0	510 L	39·16	213
†	,, Grange	J. Stanway, Esq.	8	1 2	850 T	37·03	...
†	Marsden (Deer Hill)	,, ,, ,,	...	...	1149 T	41·01	...
	Doncaster (Hatfield)	Mr. T. Askren	5	5 4	...	21·64	146
	,, (Kirk Bramwith)	B.S.Brundell,Esq. C.E.	5	1 0	17 ⅄	19·25	164
D	,, (Owston)	H. Ripley, Esq.	8	1 0	55 ⅄	20·09	160
	,, (,,) M	,, ,, ,,	8	1 0	55 ⅄	20·43	...
D	,, (Burghwallis Rec.)	Rev. F. W. Peel	5	1 6	80 T	20·18	187
	,, (,, ,,) M	,, ,, ,	5	1 6	80 T	19·82	...

DIVISION IX.—YORKSHIRE—(*continued.*)

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above SeaLevel	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
WEST RIDING—(*con.*)						
D† Slaithwaite (Blackmoorfoot)	J. Stanway, Esq.	8	1 0	800 T	37·75	230
D† Honley (Northgate House)	Miss E. Brooke	5	1 0	350 T	33·35	219
† ,, (,, ,,) M	,, ,,	5	1 0	350 T	32·19	...
D Wakefield (Walton)	E. Simpson, Esq.	5	1 0	150	20·20	141
Huddersfield (BankField,Golcar)	J. E. Ramsden, Esq.	5	1 0	400 T	35·53	199
D† ,, (Dalton)	J. W. Robson, Esq.	8	1 0	350 ⊼	28·17	200
Longwood (Bilberry Edge)	J. Stanway, Esq.	8	1 2	1090 T	29·62	...
D Pontefract (Purstone Hall)	P. C. Hall, Esq.	5	1 0	190 T	20·80	187
D Mirfield (Cote Wall)	E. B. W. Balme, Esq.	8	0 9	200	23·53	169
D† Wakefield Prison	Dr. H. Clarke	8	1 0	96 ⊼	22·21	153
,, (Alverthorpe Hall)	H. Clarkson, Esq.	5	1 0	150 T	24·74	179
Rastrick	J. T. Clay, Esq.	5	1 3	410 T	26·57	157
Pontefract (Fern Hill)	A. T. Barker, Esq.	5	2 0	120	18·70	...
D Wakefield (Field Head)	J. Parkinson, Esq.	8	1 6	250 T	19·75	148
D Goole	W. E. Grayburn, Esq.	5	1 0	18 T	18·48	142
Batley (Staincliffe Reservoir)	O. J. Kirby, Esq., C.E.	7	1 0	492 ⊼	21·10	...
Halifax (Bents, Norland) M	J. S. Rawson, Esq.	5	0 8	800 T	32·22	...
D ,, (BermersideObservatory)	J. Gledhill, Esq.	8	0 6	500	29·52	199
,, (Thorpe) M	J. S. Rawson, Esq.	8	0 8	345 T	39·37	...
D ,, (,,)	,, ,,	5	0 8	345 T	39·71	215
† ,, (Albert)	J. A. Paskin, Esq., C.E.	5	1 0	795 T	32·05	...
† ,, (Gibbet)	,, ,, ,,	5	6 0	568 T	30·29	..
† ,, (Ramsden Wood)	,, ,, ,,	8	1 2	816 T	38·85	...
Leeds (Methley Park)	J. Richardson,Esq.C.E.	5	0 9	98 ⊼	22·45	...
Hebden Bridge	A. R. Crossley, Esq.	4	1 0	479	46·92	229
Halifax (Castle Carr)	J. A. Paskin, Esq., C.E.	...	...	1060 T	40·18	...
† ,, (Midgley Moor)	,, ,, ,,	7	0 6	1350 T	47·55	...
† ,, (Warley Moor)	,, ,, ,,	7	0 6	1425 T	43·39	...
† ,, (Ogden)	,, ,, ,,	8	1 3	990 T	43·34	...
,, (Ovenden)	,, ,, ,,	...	...	1375	44·14	...
,, (Widdop)	,, ,, ,,	...	...	1050	46·54	...
† ,, (Walshaw Dean)	,, ,, ,,	8	0 3	1380 T	48·48	...
D South Milford Rectory	Rev. F. J. Young	5	1 2	60 ⊼	21·21	191
Leeds (Wortley Res.)	T. Hewson, Esq., C.E.	8	0 9	307 ⊼	28·92	160
Bradford (Queensbury)	R. J. Foster, Esq.	8	2 2	1050	35·77	138
,, (Brayshaw Reservoir)	J. Webster, Esq., C.E.	5	1 0	982 ⊼	33·34	208
D ,, (The Exchange)	A. E.Preston, Esq,C.E.	8	65 6	395 ⊼	25·73	194
,, (Stubden) *old gauge*	J. Webster, Esq., C.E.	8	1 0	1075 ⊼	46 34	270
,, (,,) M	,, ,, ,,	5	1 0	1071 ⊼	43·75	270
,, (Nan Scar) M	,, ,, ,,	5	1 0	1101 T	49·68	...
,, (Stairs) M	,, ,, ,,	5	1 0	1401 ⊼	49·53	...
,, (Leeming Res.) M	,, ,, ,,	5	1 0	850 ⊼	43·29	...
,, (Doe Park) *old gauge*	,, ,, ,,	8	1 0	810 ⊼	42·59	269
,, (,, ,,)	,, ,, ,,	5	1 0	811 ⊼	39·38	269
,, (Leeshaw Res.) M	,, ,, ,,	5	1 0	875 ⊼	48·38	...
,, (Chellow Dean)	,, ,, ,,	5	1 0	645 ⊼	29·05	163
,, (Hewenden Reservoir)	,, ,, ,,	5	1 0	701 ⊼	32·54	221
,, (,, ,,) *old g.*	,, ,, ,,	5	1 0	700 T	35·76	221

DIVISION IX.—YORKSHIRE—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1890 inches.	Days on which ·01 or more fell.
	WEST RIDING—(*con.*)							
	Bradford (Heaton Res.) ...*old g.*	J. Webster, Esq., C.E.	8	1	0	530 ⊼	30·44	202
	,, (,, ,,)	,, ,, ,, ...	5	1	0	531 ⊼	29·33	202
	Leeds (Holbeck)	Messrs. J. Rhodes & Co.	10	32	0	127 ⊼	20·48	...
D	,, (,, W. Works Depot)	T. Hewson, Esq., C.E..	8	0	9	93 ⊼	23·59	172
D	,, (Museum).....	E. R. Waite, Esq.....	10	46	0	180	23·02	172
	,, (Woodhouse Moor).....	T. Hewson, Esq., C.E.	8	0	9	307 ⊼	24·05	181
D	,, (,, Cliff)	R. Reynolds, Esq.....	5	1	0	330	25·12	202
D	,, (Elmete Hall, Roundhay)	Sir J. H. Kitson, Bt...	5	1	6	400 T	26·34	178
	,, (Weetwood Reservoir) ...	T. Hewson, Esq., C.E.	8	0	9	328 ⊼	24·23	179
	Shipley (Moor Head).....	G. Knowles, Esq.	8	10	0	500	29·63	...
D	Leeds (Allerton Hill)	T. Fenwick, Esq., C.E.	5	0	7	418 ⊼	25·02	188
	,, (Lawns Wood, Adel).....	Mr. C. S. Irvine	5	1	0	475 T	25·81	...
D	,, (Oliver Hill, Horsforth)...	C. France, Esq.	3	0	9	250 T	26·82	184
	Bingley (Gilstead Filters)	J. Webster, Esq., C.E.	5	1	0	572 ⊼	27·56	222
	Leeds (Eccup South).....	T. Hewson, Esq., C.E..	8	0	9	390 T	25·52	198
	,, (,, East)	,, ,, ,, ...	8	0	9	375 ⊼	25·69	188
†	Bingley (Sunnydale).....	J. Webster, Esq., C.E.	5	1	0	975 T	31·57	189
	Harewood (Arthington)	T. Hewson, Esq., C.E.	8	0	9	139 ⊼	24·78	176
D	Boston Spa	Rev. P. M. Eastman ...	5	1	0	...	22·93	172
	Skipton (Gill Grange, Silsden)...M	J. Webster, Esq., C.E.	5	1	0	883 T	29·14	...
D	Ilkley	G. W. Worfolk, Esq...	5	3	0	312 L	35·22	181
†	,, (Cherry Bank)	H. Richardson Esq.	8	1	3	600	35·12	...
	Skipton (Silsden Reservoir)	J. Webster, Esq., C.E.	5	1	0	560 ⊼	28·89	193
	Leathley (Lindley Wood S).....	T. Hewson, Esq., C.E..	8	0	9	312 T	29·49	216
	,, (,, ,, N).....	,, ,, ,, ...	8	0	9	320 T	28·90	216
	Slaidburn (Hareden Brook)	H. Reah, Esq.	8	1	2	540	71·53	...
	,, (Langden Brook).....	,, ,, ...	8	1	2	556	72·34	...
	,, (Whiteholme)	W. K. Wilkinson, jr. Esq	5	1	3	475 T	49·58	186
	Skipton (Cringle's Reservoir) ...	J. Webster, Esq., C.E.	5	1	0	760 T	30·65	193
	,, (Counter Hill) .....M	,, ,, ,, ...	5	1	0	951 ⊼	28·26	...
	,, (Chelker Reservoir) ...M	,, ,, ,, ...	5	1	0	730 ⊼	31·93	...
†	,, (*Craven Herald* Office)...	E. Townsend, Esq.....	8	0	8	360	33·68	187
	Slaidburn (Dunsop Houses)	J. B. McCallum Esq., C.E	8	1	0	450 T	66·66	190
	,, (Brennand)	,, ,, ,, ...	8	1	0	820 ⊼	78·44	206
	,, (Whitendale)	,, ,, ,, ...	8	1	0	830 ⊼	82·47	204
	,, (Cabin Hill)..	,, ,, ,, ...	8	3	1	1559 ⊼	73·35	...
	,, (Baxton Fell)	,, ,, ,, ...	8	2	6	1540 ⊼	54·81	...
	York (Phil. Soc. Gardens)	The Meteor. Council ...	8	1	9	53 ⊼	22·93	187
	,, (,, ,, ,,)	,, ,, ,, ...	8	1	9	53 ⊼	22·67	183
D	,, (Bootham).....	J. E. Clark, Esq.	5	0	5	50	21·52	166
	,, (Cherry Hill)	H. Richardson, Esq. ...	5	1	6	60 T	21·96	186
	Wetherby (Ribston)	Mr. Jones	5	1	2	130 ⊼	21·99	...
	Fewston (Swinsty E).....	T. Hewson, Esq., C.E.	8	0	9	460 T	33·17	209
	,, (,, W).....	,, ,, ,, ...	8	0	9	425 T	35·01	209
	,, (Timble)	,, ,, ,, ...	8	0	9	720 T	33·75	240
	,, South	,, ,, ,, ...	8	0	9	525 T	32·52	228
	,, North	,, ,, ,, ...	8	0	9	525 T	30·26	226
	,, (Spinksburn)	,, ,, ,, ...	8	0	9	620 T	29·51	223

DIVISION IX.—YORKSHIRE—(*continued.*)

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which .01 or more fell.
			ft in.	feet.	inches.	
WEST RIDING—(*con.*)						
Blubberhouses	T. Hewson, Esq., C.E..	8	0 9	575 T	35·27	240
D†Harrogate (West End Park)	J. H. Wilson, Esq.....	5	1 0	412 ⅄	26·59	211
D ,, (Skipton Road)	Mr. Gledhill	...	...	...	26·35	217
,, (Service Reservoir) ..	E. W. Dixon, Esq. ...	8	2 6	455	24·46	151
,, (Haverah Park Res.)	,, ,, ,, ...	8	2 0	620	25·75	162
,, (Bearer Dyke Res.)...	,, ,, ,, ...	8	2 0	575	26·43	161
Skipton (Barden Res.) *old g.* ...	J. Webster, Esq., C.E.	8	1 2	746 ⅄	42·34	240
,, (,, ,,)	,, ,, ,, ...	5	1 0	746 ⅄	41·44	240
Otterburn-in-Craven.....	W. Gomersall, Esq. ...	5	1 0	510 ⅄	39·75	193
West End	T. Hewson, Esq., C.E.	8	0 9	787 T	41·28	238
,, ,, (Thruscross)	,, ,, ,,	8	0 9	900 T	35·89	242
Skipton (Upper Res., Barden)...	J. Webster, Esq., C.E.	5	1 0	1250 ⅄	37·01	237
,, (Thorpe Fell ,,)...M	,, ,, ,, ...	5	1 0	1661 ⅄	36·86	...
,, (SandbedBeck,Burnsall) M	,, ,, ,, ...	5	1 0	676 ⅄	39·13	...
Knaresborough	Mr. G. Paul.....	5	1 0	214 T	24·83	183
† ,, (Conyngh'm Hall)	B. T. Woodd, Esq.....	5	1 2	190 T	25·64	136
D ,, (Farnham)	R. Elmhirst, Esq.	5	1 0	170 ⅄	23·54	190
D Settle (Ashfield Gardens).....	Mr. T. Green, Junr. ...	5	2 6	483 T	40·41	225
D ,, (The Terrace)	J. W. Shepherd, Esq..	8	1 2	525 ⅄	41·60	238
D†PateleyBdg.(Castle Stead)	G. Metcalfe, Esq.	5	1 0	410	36·08	203
,, ,, (GrimwithRes)*old g.*	J. Webster, Esq., C.E.	8	1 0	890 ⅄	45·13	231
,, ,, (,, ,,)	,, ,, ,, ...	5	1 0	893 ⅄	45·17	231
,, ,, (,,Trunla Hill)...M	,, ,, ,, ...	5	1 0	1201 ⅄	37·02	...
Pateley Moor (Smaden Head) ...	T. Hewson, Esq., C.E..	8	0 9	793	26·45	187
D†Malham Tarn.....	Mr. Coulthard	5	1 0	1296 ⅄	64·56	252
Dallow Moor (High Skeldon) ...	T. Hewson, Esq., C.E..	8	0 9	719	31·34	191
,, ,, (Harper Hill).....	,, ,, ,, ...	8	0 9	859	30·81	183
†Ripon (North Lodge).....	F. D. Wise, Esq.	5	1 0	120	24·35	...
D ,, (W.W. Lumley Moor) ...	Mr. J. Shepherd.....	8	2 0	582 T	30·60	173
†Ramsgill (Bouthwaite)	J. Webster, Esq., C.E.	8	0 6	520 T	44·83	228
D†Arncliffe....	Ven. Archdeacon Boyd	8	2 9	734 T	60·77	236
†Nidderdale (Middlesmoor)	J. Webster, Esq., C.E.	8	0 9	930 T	43·90	244
KirkbyMalzeard (Drovers' Inn)..	T. Hewson, Esq., C.E.	8	0 9	633	29·84	193
,, ,, (Hawset)	,, ,, ,, ...	8	0 9	820	33·16	219
,, ,, (HambletonHill	,, ,, ,, ...	8	0 9	1106	38·30	...
,, ,, (Bagwith Brae)	,, ,, ,, ...	8	0 9	697	32·55	241
,, (Stone andEarsWham)	,, ,, ,, ...	8	0 9	1118	38·04	...
D Ripon (High Bank, Mickley) ...	Miss Harrison.....	5	1 0	225 T	27·67	192
Masham Moor (Benjy Guide) ...	T. Hewson, Esq., C.E..	8	0 9	1412	43·35	...
,, ,, (W Somerside)...	,, ,, ,, ...	8	0 9	960	33·03	181
,, ,, (High Sour Mire)	,, ,, ,, ...	8	0 9	884	34 07	208
,, ,, (Leighton).....	,, ,, ,, ...	8	0 9	636	33·44	183
,, ,, (Low Houses).....	,, ,, ,, ...	8	0 9	693	34·44	193
Oughtershaw Hall.....	C. H. L. Woodd, Esq..	8	1 6	1175 T	68·20	237
† Sedbergh (Thorns Hall)	Miss Sedgwick	5	1 0	400 T	54·02	224

DIVISION IX.—YORKSHIRE—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain 1890	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	EAST RIDING.						
	Patrington (Spurn Head)	The Meteor. Council	8	1 0	27	16·25	172
D	,,	W. B. Pugh, Esq.	8	3 0	46 ⅄	20·72	141
	Hull (Nelholme, Ferriby)	W. R. King, Esq.	5	5 0	125 T	22·70	...
D	,, (Derringham)	W. Lawton, Esq.	5	2 2	10 ⅄	21·87	166
D	,, (People's=Pearson Park)	Mr. E. Peak	5	0 6	6	23·83	178
D	Hedon (The Vicarage)	Rev. J. H. Richardson	5	1 0	...	*19·98*	187
	Brough (Brantinghamthorpe)	Mr. R. C. Kingston	5	2 0	150 T	26·92	...
D	Cottingham	J. H. Hill, Esq.	8	1 3	26	24·41	215
	Market Weighton (Houghton)	Canon J. Wells	5	1 0	175 T	24·80	...
	Beverley (Alexandra Terrace)	T. Dyson, Esq.	12	8 0	64 ⅄	23·45	142
D	,, (Hull Bridge)	J. Tiffen, Esq.	5	2 6	11 ⅄	23·08	179
D	Market Weighton (Dalton Hall)	Mr. J. Allsop	8	1 4	150 T	26·68	170
	Middleton-on-the-Wolds	Rev. H. D. Blanchard	5	1 0	150 T	24·79	190
D	Brandesburton (Hempholm)	J. Tiffen, Esq.	5	2 6	11 ⅄	20·22	190
D	Pocklington (Warter)	J. Coxon, Esq.	5	1 10	230 T	26·38	178
	Catton Rectory [York]	Rev. H. L. Puxley	5	1 0	50 T	22·92	...
D	Driffield (Beverley Road)	Rev. J. T. Harwood	8	8 0	68 T	23·19	184
D	,, (York Road) *Snowdon.*	J. Lovel, Esq.	5	1 0	76 T	24·82	192
	,, (Waterworks)	Messrs. Fairbank & Son	5	...	200	23·95	...
	Wetwang	Rev. E. M. Cole	5	1 0	235 T	24·13	169
D	Thixendale	Rev. W. H. Fox	10	0 10	425 T	29·03	201
D	Lowthorpe (The Elms)	H. Onslow Piercy, Esq.	5	1 0	63 ⅄	23·60	167
	Bridlington Quay	Mr. J. Draffin	5	2 0	30 L	15·42	...
D	Hunmanby (Wold Newton)	Rev. T. S. Ackland	5	1 6	194	25·92	195
	NORTH RIDING.						
	†Malton	H. Hurtley, Esq.	12	1 0	75 T	23·07	...
D	Melmerby (Baldersby)	W. Gregson, Esq.	5	1 0	101 T	24·85	172
	Oswaldkirk (The Hermitage)	E. C. Munby, Esq.	5	0 8	425	26·66	...
	Ampleforth College	Rev. T. A. Burge	5	1 0	365 B	26·14	...
D	Thirsk (Sowerby)	C. M. Swarbreck, Esq.	5	1 0	105 T	24·89	187
D	,, (,, Rose Cottage)	A. C. Bamlett, Esq.	5	1 0	118	23·55	127
D	Masham (Burton House)	B. Carter, Esq.	6	1 0	269 T	27·91	126
D	Pickering (The Rectory)	Rev. G. H. Lightfoot	5	1 3	150	23·79	184
D	Bedale (Thorpe Perrow)	Mr. W. Culverwell	5	1 6	170	24·06	171
	†Hawes Junction	The Meteor. Council	8	1 0	1135	64·56	249
	†Aysgarth Vicarage M	Rev. F. W. Stow	3	1 0	644 T	32·21	...
	,, ,,	,, ,,	8	1 0	659 T	32·66	212
	†Leyburn	G. W. Wray, Esq.	7	1 0	660 T	32·75	...
	† ,, (Bolton Hall) M	Mr. E. Hall	8	0 8	420	30·50	...
	† ,, (,, ,,)	,, ,,	5	1 0	420	30·81	130
	Seamer (Irton)	W. Millhouse, Esq. C.E.	8	...	94	25·30	149
	Scarborough (Osgodby)	,, ,,	8	...	166	22·86	137
D	,, (West Bank)	W. Robinson, Esq.	8	1 0	160 B	24·89	203
	Hambleton Hills (High Paradise)	A. C. Bamlett, Esq.	5	1 0	1050	25·58	...
D	†Hawes (Hardrow Vicarage)	Rev. R. Pinck	5	1 0	790 ⅄	39·77	236
	,, (Beckside, Lunds)	,, ,,	5	1 0	1100	66·91	...
D	Northallerton (Osmotherley)	Miss Yeoman	8	0 8	650	24·06	176

DIVISION IX.—YORKSHIRE—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	NORTH RIDING—(*con.*)						
	Richmond (The Grove)	G. Roper, Esq.	5	1 3	...	32·43	...
	Northallerton (Rounton Grange)	The Royal Meteor. Soc.	8	1 0	250	24·48	201
	Robin Hood's Bay (Fylingdales Vic)	Rev. R. J. Cooper	5	0 5	120	27·26	...
D	Ingleby Manor	The Hon. H. Sidney	5	0 10	440 T	31·43	172
D	,, Greenhow Vicarage	Rev. J. Hawell	5	1 0	448 T	30·61	194
D	East Layton [Darlington]	Mrs. Proud	5	1 0	575 T	28·59	149
D	Richmond (Forcett Park)	J. Michell, Esq.	5	1 0	360 T	31·16	208
	Whitby (Guisborough Road)	M. Simpson, Esq.	5	2 0	184 ⅄	25·92	160
	,,	T. Newbitt, Esq.	8	1 6	150 T	25·82	146
	Bowes	G. J. Symons, Esq. F.R.S	8	1 0	...	28·58	...
	Guisborough (Hutton Hall)	Sir J. W. Pease, Bt., M.P.	5	1 3	400 T	30·87	179
D	,, (Lockwood Beck Res)	W. I'Anson, Esq., C.E.	8	1 0	632 ⅄	35·68	203
	,, (,, ,,) M	,, ,, ,, ...	...	...	...	34·98	...
D	Middlesborough (Albert Park)	T. Hallam, Esq.	8	2 0	30	25·42	182
D	Mickleton	G. J. Symons, Esq. F.R.S	8	...	...	29·65	191
†	,, (Lime Kiln Pasture) M	,, ,, ,,	8	1 0	1175 T	28·90	...
†	,, (,, ,, ,,) M	,, ,, ,,	8	1 0	1175 T	32·98	...
D	Redcar (Kirkleatham)	W. Stainthorpe, Esq M.D	...	...	...	25·13	201

DIVISION X—NORTHERN COUNTIES.

	DURHAM.						
D	Darlington (Hurworth Grange)	J. E. Backhouse, Esq.	5	1 0	161 ⅄	25·45	192
D	,, (Elcott, Hurworth)	Rev. W. E. Stewart	5	1 0	121 B	24·95	187
D	,, (Dinsdale Rectory)	Rev. J. W. Smith	5	2 0	54	25·08	172
	Egglescliffe [Yarm]	Rev. Canon Powell	5	1 0	...	?19·42	125
D	Darlington (South End)	Mr. N. Black	8	0 10	140	25·30	178
D†	,, (Cleveland Parade)	S. Hare, Esq.	5	1 0	160 T	26·33	201
D	Barnard Castle (Whorlton)	Miss Dodgson	5	0 11	424 T	26·54	150
D	,, ,, (County School)	E. Wells, Esq.	5	1 6	540 T	29·33	196
†	Staindrop (Raby Castle)	Mr. W. Hards	8	1 0	460 T	25·83	130
D	Bishop Auckland (Mt. Pleasant)	E. Lingford, Esq.	...	...	...	27·49	190
	,, ,, (The Castle)	Mr. J. Larkin	5	1 0	100	28·82	180
D	Witton-le-Wear (Witton Tower)	W. R. I. Hopkins, Esq.	5	0 8	420 T	29·47	157
	West Hartlepool (Lynn Street)	Mr. H. Lamb	5	30 0	45	24·18	158
D	Hartlepool (Heugh Lighthouse)	W. Belk, Esq., C.E.	5	0 6	34 ⅄	24·84	200
D	,, (Hurworth Burn)	T. Fenwick, Esq., C.E.	5	0 7	360	25·62	169
	,, (Hart Reservoir)	,, ,, ,,	8	0 9	164	26·48	...
D†	Wolsingham	Mr. A. Mitchell	5	1 0	464 ⅄	32·33	215
	Tow Law	G. Hood, Esq., M.D.	5	4 0	1014	32·73	...
	Durham	The Meteor. Council	12	4 0	340	25·86	206
D	,, (Ushaw College)	Rev. J. Corbishley	5	0 10	600 ⅄	28·26	184
	Weardale W.W. (Waskerley 6)	R. Askwith, Esq., C.E.	8	4 2	1229 ⅄	30·38	...
	,, ,, (,, 3)	,, ,, ,,	8	4 6	1433 ⅄	31·52	...
	,, ,, (,, 4)	,, ,, ,,	8	4 7	1321 ⅄	30·33	...
	,, ,, (,, 5)	,, ,, ,,	8	4 2	1244 ⅄	29·90	...

DIVISION X.—NORTHERN COUNTIES—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	DURHAM—(*con.*)						
	Weardale W.W. (Waskerley 2)	R. Askwith, Esq., C.E.	8	4 5	1367 ⊼	30·92	...
	,, ,, (,, 1)	,, ,, ,, ...	8	4 4	1317 ⊼	30·10	...
D	Seaham Harbour Cemetery	Mr. R. Leith	8	1 7	150	29·57	205
	,, Vicarage	Rev. A. Bethune	5	0 6	80 T	27·73	...
	,, Hall	Mr. R. Draper	5	1 0	100 ⊼	30·36	...
	Houghton-le-Spring (Myre Hall)	D. Balfour, Esq., C.E.	5	1 0	261 T	33·32	195
D	Sunderland(W.HendonHo) No.5.	T. W. Backhouse, Esq.	5	1 0	130 ⊼	28·88	183
	,, (,, ,, ,,) No.4	,, ,, ,, ...	5	1 0	130 ⊼	30·04	...
	,, (Fever Hospital) ...	Dr. Harris	8	0 8	109 T	28·02	164
D	Gateshead (Eighton Cottage) ...	Miss Favell.....	5	2 6	515	28·78	197
D	South Shields (Marsden)	J. Daglish, Esq.....	5	0 4	150	26·35	128
	NORTHUMBERLAND.						
D	Haltwhistle (Shaft Hill)	Mr. R. Hetherington...	5	0 9	626 T	35·22	163
D	,, (Unthank Hall) ...	Rev. Dixon Brown.....	5	0 9	380 T	34·43	212
D	Ovingham (W. Tyne Colliery)...	J. K. Guthrie, Esq. ...	8	2 0	179 ⊼	30·88	205
D	Haydon Br.(Ridley-Beltingham)	Rev. G. Reed	5	2 8	340 T	34·53	198
D	Newcastle (Clifton Road).....	R. Foster, Esq.	8	1 6	314 ⊼	28·61	177
	,, (Philos. Society)	H. Richardson, Esq. ...	8	55 0	160 T	29·18	...
	,, (Gladstone Terrace)...	W. Smurthwaite, Esq.	2	6 0	156 T	27·00	112
	,, (Portland Road)	Mr. T. Bone	4	9 6	...	26·30	109
D	,, (Town Moor)	A. Wright, Esq.	5	2 0	201 ⊼	28·37	156
D	,, (Wellburn, Jesmond).	W. H. Holmes, Esq....	5	1 6	161 T	29·36	162
	North Shields (Wallsend).....	R. R. Dees, Esq.	10	0 6	100 ⊼	27·53	...
	,, (Post Office)	The Meteor. Council ...	8	1 4	100	24·23	181
D†	,, (Rosella Place) ...	C. J. Spence, Esq.....	8	1 0	124 ⊼	27·44	180
D	,, (Tynemouth)	P. J. Messent, Esq., C.E.	5	1 8	65 ⊼	24·44	196
	,, (Monkseaton).....	T. Green, Esq.	5	4 0	132	23·24	...
	Bingfield House.....	J. Coppin, Esq.	5	1 0	445 T	28·07	191
Newcastle and Gateshead W. Works	Whittle Dean	G. Smith, Esq.	10	...	...	28·68	...
	Swinburn (Woodford).....	,, ,, ,, ...	10	0 6	500 ⊼	31·10	...
	North Tyne (Green Crag) ...	,, ,, ,, ...	10	0 6	800 ⊼	30·18	...
	,, ,, Valley	,, ,, ,, ...	10	0 6	300	28·45	...
	Hallington	,, ,, ,, ...	10	0 6	469 ⊼	29·18	...
	,, (Fawcett)	,, ,, ,, ...	10	0 6	563 ⊼	28·01	...
	Gunnerton Burn (Camphill)..	,, ,, ,, ...	10	0 6	676 ⊼	27·90	...
D	Morpeth (Meldon Park)	Mr. J. Finlay.....	5	1 0	...	30·42	190
D	,, (Bothalhaugh Garden)..	Hon. & Rev. W. C. Ellis	5	0 10	35 ?	28·43	196
	,, (,, ,,)M	,, ,, ...	...	...	...	30·15	...
	Redesdale (Horsley)	G. Smith, Esq.	8	...	...	27·95	...
	Rothbury (Brenckburn)	A. H. Cadogan, Esq....	8	1 2	257 T	32·43	
D	,, (Cragside)	Lord Armstrong, C.B..	8	1 0	400 ⊼	33·34	139
	Redewater (Blakehope).....	G. Smith, Esq.	8	...	...	30·46	...
	,, (Chattlehope)	,, ,, ...	8	..	...	36·89	...
	,, (Catcleugh)	,, ,, ...	8	...	...	36·47	...
D	Alwinton (Harbottle Castle) ...	Mr. R. Elliott	5	1 0	500	34·51	186
	,, (Biddleston Hall).....	P. Dodds, Esq.	5	1 0	820 T	33·09	172
	Alnwick Castle	The Meteor. Council ...	5	0 4	178	32·87	180

DIVISION X.—NORTHERN COUNTIES.—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which .01 or more fell.
			ft. in.	feet.	inches.	
NORTHUMBERLAND—(*con.*)						
Alnwick (Glanton Pyke)	F. W. Collingwood, Esq.	8	4 4	517	36·40	...
D Howick Hall	Rt. Hon. Earl Grey, K.G.	8	0 10	121 ⅄	29·52	180
Ilderton (Lilburn Tower)	E. J. Collingwood, Esq.	10	6 0	300 T	29·02	...
Cheviot (Broadstruther) .....M	G. P. Hughes, Esq. ...	8	4 0	1574	44·63	...
D Bamburgh	Mr. W. C. Good	5	1 0	75 L	27·19	193
D Pawston [Coldstream]	B. P. Selby, Esq.	8	1 0	328 T	30·50	206
Wooler (Milfield)	G. Grey, Esq.	5	0 6	215 ⅄	28·58	...
,, (,, Hill)	,, ,, ...	5	4 6	695 ⅄	22·04	...
CUMBERLAND.						
D Millom (Leyfield)	Cedric Vaughan, Esq CE	5	1 2	81	50·65	211
D Duddon Hall	Mr. D. E. Elder.....	8	4 6	60	75·91	219
D†Duddon Valley (Ulpha Vic.) ...	Rev. W. Kewley	5	1 3	175	84·24	229
Ravenglass (The Grove)	J. Ross, Esq.	5	2 6	80 ⅄	50·42	158
,, (Irt Side, Holm Rook)	J, D. Watson, Esq. ...	10	3 6	...	41·79	...
D Eskdale	Rev. R. H. Snape	5	1 6	150?	74·46	226
D Seascale (Whinthwaite)	R. Hellow, Esq. Ph.D.	5	1 0	52 ⅄	41·91	204
D Nether Wasdale Vicarage.....	Rev. J. Baker.....	5	0 11	183 T	58·75	217
Braystones	W. H. Watson, Esq....	10	3 6	36	41·23	199
Sprinkling Tarn .....M	G. J. Symons, Esq. F.R.S.	4	0 6	1985	157·00	...
Wastdale Head .....M	,, ,, ...	4	0 6	204 T	96·58	...
Styehead Tarn .....M	,, ,, ...	4	0 6	1472 T	142·90	...
†The Stye .....M	,, ,, ...	4	0 6	1077 T	202·05	...
† ,, ,, ...*New S.E. gauge*M	,, ,, ...	4	1 0	1077 T	172·55	...
Gable Hawes .....M	,, ,, ...	8	...	1077 T	83·30	...
†Seathwaite .....M	,, ,, ...	4	0 6	422 T	141·64	...
D† ,, ...	,, ,, ...	5	1 0	423 T	141·80	228
,, ...	The Royal Meteor. Soc.	5	0 10	422 T	139·90	228
*† ,, ...M	John Marshall, Esq. ...	5	1 0	420 T	137·96	...
Ullscarf .....M	G. H. Hill, Esq., C.E..	7	1 0	2100 T	113·50	...
D Whitehaven (The Flosh, Cleator)	D. Ainsworth, Esq. M.P.	5	1 11	208 T	57·55	189
†Wythburn Vicarage	Rev. Basil R. Lawson..	5	1 0	574 T	95·15	...
†Helvellyn (Birkside) .....M	G. H. Hill, Esq., C.E..	7	1 0	1900 T	77·80	...
†Wythburn .....M	,, ,, ,, ...	7	1 0	580 T	86·30	...
D Borrowdale Vicarage.....	Rev. J. Taylor	5	1 0	330 T	103·07	243
D†Buttermere (Hassness)	Mr. S. Stewart	5	1 0	355	106·74	235
D†Borrowdale (Grange)	Mr. Threlkeld	5	0 9	271 T	86·82	226
Armboth.....	G. H. Hill, Esq., C.E..	7	1 0	550 T	73·10	...
,, Fells (The Pewitts).....	,, ,, ,, ...	7	1 0	1650 T	90·70	...
Helvellyn (Whiteside)	,, ,, ,, ...	7	1 0	2100 T	74·20	...
†Whitehaven (Irish Street)	Dr. I'Anson	5	1 1	21 ⅄	46·16	178
D†Keswick (Barrow House).....	Miss Langton.....	8	0 6	282	68·58	237
Loweswater (Waterend)	Mrs. Jackson	5	1 0	432 T	59·63	236
Ullswater (Hallsteads)	A. Marshall, Esq.	5	2 0	497 T	43·83	...
†Keswick (Deer Close)	John Marshall, Esq. ...	7	1 9	300 T	60·12	213
† ,, (Derwent Island) ...*old*	,, ,, ,,	5	0 7	280 T	52·40	251
,, (,, ,,) ...*new*	,, ,, ,,	5	0 6	290	57·45	251
D† ,, (Bank).....	J. F. Crosthwaite, Esq.	8	6 4	270 T	58·48	243

DIVISION X.—NORTHERN COUNTIES—(*continued*)

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
CUMBERLAND—(*con.*)						
†Keswick (Bank)	J. F. Crosthwaite, Esq.	5	1 0	265 T	56·89	243
D ,, (The Beeches)	T. Paulin, Esq.	8	1 0	...	55·92	224
,, (,,)	,, ,, ,,	5	1 0	...	56·39	224
D† ,, (Shu-le-crow)	A. Mitchell Dawson, Esq	5	0 7	296 T	61·36	222
D ,, (Bassenfell) ...	Mrs. Rathbone	8	1 0	384	?37·61	208
D Cockermouth (Whinfell Hall) ...	W. Robinson, Esq. ...	5	2 0	265 R	54·59	240
D ,, (Brandlingill)	Col. F. R. Sewell	5	1 0	320 R	52·71	237
†Threlkeld Rectory	Rev. J. Brunskill	5	4 0	488 T	51·09	205
D Bassenthwaite (Mire House) ...	Lady Jane Spedding ...	5	0 6	300 T	49·34	202
D†Cockermouth (Derwent House)..	Mrs. Dodgson	5	...	144	40·66	175
D† ,, (Higham)	Rev. Canon Hoskins ...	5	1 0	478 R	46·41	229
D ,, (Broughton Grange)	G. S. Wilson, Esq. ...	5	1 3	209 R	40·44	196
Penrith (Culgaith Vic.)	Rev. G. W. Atkinson..	5	0 10	500 T	30·37	...
D ,, (Nandana)	G. Varty Smith, Esq...	5	4 0	650 T	29·98	205
† ,, (Fell Lane, Fir Bank) ..	T. Lester, Esq.	5	1 0	575 T	30·94	200
,, (Greystoke)	A. Tremayne Buller, Esq	5	...	700	40·00	...
D† ,, (Newton Reigny)	T. G. Benn, Esq.	8	1 0	580 R	33·06	218
† ,, (,, ,,)....M	,, ,, ,, ...	8	1 0	580 R	33·04	...
D ,, (Edenhall Vicarage) ...	B. W. Lovejoy, Esq....	5	1 4	310 T	30·60	212
,, (Kirkland Vicarage) ...	Rev. A. Edwards	5	1 0	640	35·44	...
D†Blencowe School	T. Fawcett, Esq.	8	0 9	601 B	35·03	215
D Penrith (Nunwick Hall)	Mrs Heywood Thompson	5	1 0	297	30·76	198
Maryport (Netherhall)	H. P. Senhouse, Esq...	8	0 6	27 R	40·29	180
D Kirkoswald (Melmerby)	Rev. A. C. Pittar . . .	5	0 8	...	34·33	220
D Mealsgate (Uldale Rectory)	Rev. J. Greenwood ...	5	1 4	550	48·78	198
Hesket Newmarket	Mr. J. Wilson ..	5	1 0	600 T	45·35	214
D Aspatria (Brookfield)	M. Lidbetter, Esq.	5	0 9	124 R	34·16	237
Carlisle (Wreay Vicarage)	Rev. T. Lees	5	2 0	310 T	29·85	218
D† ,, (Cemetery)	S. Cartmell, Esq.	8	3 0	114 R	31·96	198
,, (Rickerby House)	M. MacInnes, Esq., M.P.	8	1 2	50	27·16	...
D ,, (Castletown)	Mr. A. Smith	5	1 6	...	?24·37	153
,, (Scaleby)	The Royal Meteor. Soc.	5	1 0	112	32·78	225
D Brampton (Denton House)	Mr. J. Charlton	5	1 5	541 R	34·16	225
,, (,, ,,)	,, ,,	5	1 2	541 R	34·33	...
WESTMORELAND.						
Arnside	J. P. Drewett, Esq. ...	5	0 6	20	41·56	190
Kirkby Lonsdale	Mr. W. Harrison	5	1 2	209	43·30	...
Witherslack (Halecote)	Rev. J. E. Cross	5	1 0	100 T	50·85	...
D Kendal (Natland Park)	Mrs. Shipley	5	1 0	260 T	50·84	208
,, (Hill Top)	C. J. Holdsworth, Esq..	5	1 0	560 B	49·47	218
D ,, (Kent Terrace)	R. J. Nelson, Esq.	5	4 0	146 T	48·13	216
D ,, (Hawesmead)	G. F. Braithwaite, Esq.	8	0 6	175 R	47·63	220
,, (Ellergreen)	J. Cropper, Esq.	5	1 3	270 T	54·14	238
D Bowness (Fallbarrow)	Rev. A. Rawson	8	1 0	135 T	60·37	208
D Windermere (Woodland Terrace)	Rev. T. Mackereth ...	5	6 5	370	55·76	232
D Longsleddale	Rev. W. Burrows	5	6 0	512 T	73·97	237
Little Langdale (Fell Foot)	S. A. Marshall, Esq....	5	2 2	380	115·10	...

DIVISION X.—NORTHERN COUNTIES—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	Height Above Ground in.	Height Above Sea Level feet.	Depth of Rain. 1890 inches.	Days on which ·01 or more fell.
	WESTMORELAND—(*con.*)							
D	Dungeon Ghyll	S. A. Marshall, Esq.	5	0	5	310	112·92	213
	,, ,, M	,, ,, ,,	5	1	7	311	112·91	...
D†	Ambleside (Nook Cottage)	Mr. E. Hird	5	1	0	227 ⅄	72·51	231
†	,, (Lesketh Howe)	F. M. T. Jones, Esq.	5	2	6	175 T	75·16	238
D	Elterwater	J. Robinson Esq.	...	...		187	89·19	220
D†	Grasmere (High Close)	E. B. W. Balme, Esq.	8	0	9	553 T	82·28	229
D	,, (Pavement End)	T. A. Green, Esq.	5	1	0	214 T	87·89	243
D	Ravenstonedale (Brownber)	J. Fothergill, Esq.	5	3	0	826 T	39·30	177
	Orton Vicarage	Rev. E. Holme	5	3	6	770 T	48·52	195
D†	Kirkby Stephen	T. Mason, Esq.	5	1	0	574 T	37·77	200
	Fairfield M	T. A. Green, Esq.	8	1	0	2860 T	81·20	...
†	Shap (Sleddale Hall) M	Mr. W. Hoggarth	5	1	0	1560 T	63·15	...
†	,, (Swindale) M	,, ,,	5	1	0	1610 T	74·00	...
	Asby (Town Head)	Mr. J. Clemmet	5	1	0	685 T	41·44	220
D†	Shap (Copy Hill)	Mr. W. Hoggarth	5	1	0	852 ⅄	48·41	258
	,, (,, ,,) M	,, ,,	5	1	0	852 ⅄	48·60	...
	Grisdale (Ruthwaite Lodge)	Mr. A. Milne	8	1	6	...	100·24	...
D†	Patterdale Hall	,, ,,	7	1	3	490 T	73·86	226
†	,, (Greenside Mine)	Mr. T. Taylor	7	1	6	1000 T	89·28	...
D†	Appleby	Dr. Armstrong	5	1	0	442 ⅄	30·11	196
	Ullswater (Swarth Fell) M	G.J.Symons,Esq. F.R.S.	5	1	0	1000 T	47·50	...
	Lowther Castle [Penrith]	Mr. F. Clarke	8	3	6	750 T	36·85	155
D	Barton Hall [Penrith]	J. H. Cumpston, Esq.	5	...		...	38·46	147
D	Milburn	Miss Robinson	5	1	0	644	31·84	192

DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS.

	MONMOUTH.							
D	Marshfield (Llwynarthan)	F. G. Evans, Esq.	5	1	0	72 B	27·91	192
	Newport (Crindau House)	T. Dyne Steel, Esq. C.E	...	1	6	...	30·18	196
D	Chepstow (Shirenewton Hall)	E. J. Lowe, Esq., F.R.S.	8	0	8	530 T	29·34	187
D	,, (The Mount)	H. A. Smith, Esq.	5	1	0	150	25·06	181
D	Llanfrechfa Grange	F. J. Mitchell, Esq.	5	4	0	326 ⅄	30·02	163
	Tredunnock	Rev. C. T. Salusbury	5	2	3	170 ⅄	26·37	186
D	Chepstow (Piercefield Park)	H. Clay, Esq.	5	1	6	270	24·99	170
D	,, (Itton Court)	E. Curre, Esq.	8	4	0	390	27·09	204
	Llangibby Rectory	Rev. F. L. Salusbury	5	3	6	...	25·40	169
D	Usk (Glen-hailog)	D. Lawrence, Esq.	8	4	0	99	26·96	185
D	Tredegar (Bedwellty House)	J. Colquhoun, Esq.	8	1	0	972 ⅄	45·13	164
D	,, (The Willows)	G. A. Brown, Esq.	8	1	0	1024 T	47·14	199
	Blaenavon Gas Works	C. White, Esq.	5	0	9	980	41·03	...
D	Monmouth (The Hendre)	H. A. Rolls, Esq.	8	1	0	176 T	22·89	191
	Abergavenny (Larchfield)	Dr. Glendinning	5	1	0	240 B	27·80	186
	,, (Dyne House)	Dr. Steel	5	1	3	220	30·81	191
D	,, (The Chain)	W. Baker Gabb, Esq.	5	2	6	250	31·71	204
D	Llantilio Court	Sir H. M. Jackson, Bt.	5	0	10	207 ⅄	26·65	130
D	Llanvihangel Court	Col. Sturt	5	2	4	508 ⅄	28·74	186
	,, ,, M	,, ,,	5	2	4	508 ⅄	29·73	...
D	Monmouth (Pentwyn)	Rev. J. T. Harding	5	1	0	191 B	23·58	159

DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(*continued.*)

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	in.	Height Above Sea Level feet.	Depth of Rain. 1890 inches.	Days on which ·01 or more fell.
GLAMORGAN.							
* Cowbridge (Fonmon Castle).. ...	O. H. Jones, Esq.	8	1	2	130	28·41	186
D ,, (The Ham)	I. Nicholl, Esq.	8	1	3	96 T	25·85	167
Cardiff (Cogan Pill, Landough)..	J.A.B.Williams,EsqCE	5	1	0	122 ⅄	26·31	164
D ,, Castle	Mr. A. Pettigrew	5	1	0	38 ⅄	28·71	196
D Porthcawl (The Rest)	G. Evans, Esq.	5	1	0	60	29·78	182
Cowbridge (Ash Hall)	D. Owen, Esq.	8	1	0	315 ⅄	36·11	212
D Cardiff (Ely)	J.A.B.Williams,EsqCE	8	1	0	53 ⅄	32·00	191
,, (Lisvane)	,, ,, ,,	5	1	0	136 ⅄	25·64	199
,, (New Filters, Heath)....	,, ,, ,,	5	1	0	132	31·99	198
,, (Llanishen Res.)	,, ,, ,,	5	1	0	155	28·04	195
D Gower (Pilton Green)	Mrs. Edwards.....	12	3	0	286 T	32·48	152
,, (Penmaen)	Miss Bostock	6	1	0	300 T	39·02	213
Oystermouth (Newton)	Rev. S. Jones	5	0	9	279 T	37·26	...
D Swansea (Sketty)	T. T. Wood, Esq.	5	1	0	281	41·12	212
D ,, (South Dock Lock).....	J. Dixon, Esq.	12	14	9	40	38·09	201
Pontypridd (The Reservoir).....	W. Jones, Esq.	5	1	0	300	42·19	...
D Neath	E.C. Pole, Esq.	5	1	0	204 ⅄	46·24	225
D Swansea (Morriston)	E. Rice Morgan, Esq...	5	1	0	87	42·66	187
D Neath (Fairy Land)	E. Ll. Green, Esq. ...	5	1	9	170 B	44·55	222
D† ,, (Glyncorrwg)	T. F. Brown, Esq.....	5	4	6	717 B	78·83	241
D Mountain Ash (Maesydderwen)..	M. Morgan, Esq.	5	1	0	483 ⅄	45·99	205
Treherbert	Sir W. T. Lewis, C.E...	5	1	0	670	74·19	223
D Castell Llwchwr (Penllergare)...	SirJ.T.D.Llewellyn,Bt.	5	3	6	240 T	41·40	187
D Rhondda (Castell-nos Res.).....	W. Jones, Esq.	5	1	0	1110	*77·15*	165
Aberdare (The Mardy)	Sir W. T. Lewis, C.E...	5	2	2	431 ⅄	49·41	192
D† ,, (Abernant).....	Evan Jones, Esq.	5	4	6	425	51·05	179
D Felindre (Lliw Reservoir).....	R. H.Wyrill, Esq., C.E.	8	1	3	426 T	49·57	220
D Merthyr Tydfil (PlymouthWks.)	T. H. Bailey. Esq. ...	...	...		...	44·22	177
Dowlais (Cwm Bargoed)	G. A. Lundie, Esq., C.E.	5	1	0	1237 ⅄	37·89	198
D Ystalyfera (Tan-yr-allt)	D. H. Lewis, Esq.....	8	1	6	300 L	54·77	188
CARMARTHEN.							
Llanelly (Old Market Place) ...	G. Watkeys, Esq., C.E.	5	10	0	35 T	37·90	182
D ,, (Cwmlliedi W.W.).....	,, ,, ,, ...	5	3	0	240 ⅄	45·56	244
Tegfynydd [Narberth]	H. S. Morgan, Esq. ...	5	1	0	158 ⅄	45·79	155
D†Carmarthen (Joint Co. Asylum)..	Dr. Hearder	8	1	0	189 ⅄	43·35	213
Llandilo (Dynevor Castle)	Rt. Hon. Lord Dynevor	8	1	0	202 T	46·28	192
D Llandovery.....	J. Watkins, Esq.	5	1	0	217 T	45·95	251
PEMBROKE.							
Pembroke (Stackpole Court).....	Rt.Hon. Earl of Cawdor	6	1	6	60⅄	35·91	207
Tenby (Manorbier Vic.)	Rev. J. L. Moore	5	1	0	50?	31·52	151
St. Ann's Head	The Meteor. Council ...	8	0	8	150	30·54	222
D Haverfordwest (Picton Castle)...	Sir C. Philipps, Bart...	5	1	0	100	39·44	183
D* ,, (High Street) ...	E. P. Phillips, Esq. ...	5	1	0	95 T	42·82	195
D Clarbeston (Penty Park)	Capt. F. Lloyd Philipps	5	1	0	320 T	43·70	151
D St. David's.....	Dr. W. P. Propert.....	5	1	0	216	35·14	226
D Castle Malgwyn [Llechryd]	Mr. W. Ward	5	1	0	...	39·15	186

DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height above Ground	Height above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
CARDIGAN.						
D Troedyraur Rectory	Rev. R. J. Lloyd	5	1 0	140?	37·72	193
D Aberaeron (Dolaeron)	T. H. Maddy, Esq.	8	1 11	50	34·09	187
Aberystwith	The Royal Meteor. Soc.	8	1 0	60	26·68	186
D ,, (Goggerddan)	Sir Pryse Pryse, Bart..	5	1 0	80 B	47·63	183
,, (Cwmsymlog)	Capt. Garland	5	3 0	800	57·34	...
BRECKNOCK.						
†Nanthir Reservoir [Aberdare]	O. Williams, Esq.	5	1 0	860 ⅄	47·51	231
D Colbren (Penwyllt)	G. Palmer, Esq.	5	1 0	1108	64·46	204
D Taff Fechan (Pentwyn Res.)	T. F. Harvey, Esq.	5	1 0	1120	52·38	229
,, ,, (,, ,,)...M	,, ,, ,, ...	5	1 0	1120	52·20	...
†Cardiff W W (Cwm Taff Fawr No5)	J A B Williams, Esq. C.E.	5	1 0	1143 ⅄	55·74	...
† ,, ,, (,, ,, ,, No1)M	,, ,, ,, ...	5	1 0	2350 T	64·54	...
,, ,, (Cantreff Res.) ...	,, ,, ,, ...	5	1 0	1120	56·17	238
† ,, ,, (Cwm Taff Fawr No6)	,, ,, ,, ...	5	1 0	1328 ⅄	71·84	233
D Taff Fechan (Neuadd Res.)	T. F. Harvey, Esq.	5	1 0	1460	56·15	243
,, ,, (,, ,,) ...M	,, ,, ,, ...	5	1 0	...	55·19	...
Crickhowel (Gwernvale)	Mrs. Lloyd	5	1 0	373 ⅄	*32·80*	196
Brecknock (Cantreff Rect.)	Rev. J. J. Evans	5	1 0	630 T	41·16	181
D ,, (Llandefaelog-fach)..	Rev. W. Williams	5	1 1	660	36·22	230
D Hay (Gwernyfed Park)	Major Wood	5	1 0	350 T	?24·04	201
D Builth (Llanwrtyd Wells)	Miss Jones	5	1 0	800 L	53·62	217
,, (Abergwessin Vic.)	Rev. J. Jones	5	1 0	904 ⅄	61·64	250
Newbridge (Llysdinam)	Mrs. Lister Venables...	5	1 3	640 T	30·08	189
RADNOR.						
D Disserth (Glanhowey)	Rev. A. W. Powell	8	1 0	700?	34·67	255
D New Radnor (Downton)	Col. Pearson	5	0 8	712	35·19	218
,, ,, (Ednol)	Mr. W. Jones	5	1 0	950	38·50	223
Llandegley (Gwern-i-Arglwydd)	Mr. J. Campbell	5	2 0	1000	33·68	221
D Pen-y-bont	Mr. J. Hamer	5	3 6	788	31·55	190
D Rhayader (Nantgwillt)	R. L. Lloyd, Esq.	5	1 0	768 ⅄	54·69	247
D Presteigne (Clatterbrune)	Mr. J. Winfield	5	1 0	500	27·49	160
MONTGOMERY.						
†Llangurig (Esgair Clochfan) M	G. J. Symons, Esq., FRS	5	1 2	1330	64·30	...
† ,, (Ystrad-olwyn-fawr) ...M	,, ,, ,, ,,	8	1 0	950	43·10	...
D Llanidloes (Broomcliffe)	E. Powell, Esq.	5	1 0	650 T	40·06	216
D Newtown (Dolfor)	W. B. Pugh, Esq.	5	0 3	1027 T	28·29	201
Churchstoke (Mellington Hall) ..	P. Wright, Esq.	5	1 6	540 ⅄	27·68	174
,, (,, ,,)M	,, ,, ,, ...	5	1 6	540 ⅄	27·48	...
D Caersws (Llanwnog)	Rev. D. Parry	5	1 4	...	29·71	158
D†Carno (Tybrith)	Miss Marsh	5	1 0	595 T	43·26	207
D Welshpool (Powys Castle)	Mr. Huntley	8	1 6	...	25·98	138
D ,, (Park Lane)	Mrs. Hawksworth	5	1 0	...	26·69	150
Garthbibio (Bwlch Tomlyd) M	G. J. Symons, Esq., FRS.	5	1 2	1370	99·70	...
D Welshpool (Pool Quay Vic.)	Rev. R. J. Roberts	5	1 0	230 T	24·44	185
D Meifod (Tanyfron)	A. George, Esq.	5	1 2	...	25·47	192
D Lake Vyrnwy	H. J. Marten, Esq. C.E.	5	..	...	50·89	212

DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(*continued.*)

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground.	Height Above Sea Level	Depth of Rain. 1890	Days on which .01 or more fell.
			ft in.	feet.	inches.	
FLINT.						
D Hawarden	Dr. Burlingham	5	1 0	245 T	30·93	199
†Flint (Soughton Hall, Northop).	J. Scott Bankes, Esq.	5	0 10	418	31·94	193
St. Asaph (Nantllys)	P. P. Pennant, Esq.	5	1 0	173 R	26·68	...
D†Halkyn	Capt. Williams	5	1 3	895 R	29·59	168
D Holywell (Bagillt)	H. T. Barker, Esq.	5	1 6	20 T	27·73	184
Rhyl (Sedgley House)	W. T. Girdlestone, Esq.	5	2 6	21 R	24·35	168
DENBIGH.						
D Ruabon (Penycae Reservoir)	G. E. Woodford, Esq.	5	1 0	660 T	32·58	129
D ,, (Wynnstay)	Mr. Middleton	5	1 6	484 R	32·68	198
D Llangollen (Plas Berwyn)	Col. Tottenham	5	0 5	440	45·15	189
D Cerrig-y-druidion	C. S. Mainwaring, Esq.	5	1 0	905 T	43·27	210
Wrexham (Pack Saddle Res.)	F. Storr, Esq.	5	0 9	370 R	32·74	174
,, (Cae Llwyd Res.)	,, ,, ,,	8	0 9	918 R	38·34	185
,, (,, ,, ,,)	,, ,, ,,	5	0 9	918 R	38·00	185
D ,, (Is-y-coed)	Rev. L. Wickham	8	1 2	110 T	26·86	140
D ,, (Brymbo)	J. H. Darby, Esq.	5	1 0	650	33·80	179
D Rosset (Trevalyn Hall)	Capt. Griffith Boscawen.	5	1 0	58 R	26·45	186
D Llangerniew (Hafodunos)	H. R. Sandbach, Esq.	5	1 0	512 T	40·45	167
D Denbigh (Garn)	W. D. W. Griffith, Esq.	5	1 0	457 T	30·91	181
Dolben [St. Asaph]	T G. Dixon. Esq.	5	1 2	...	31·40	212
Trefnant (Maes Elwy)	Major Birch	5	10 0	200 T	27·57	154
Eglwys-Bach (Bodnant)	Mr. C. Ashby	8	2 6	102 R	33·21	163
D Colwyn Bay (Nant-y-Glyn)	A. O. Walker, Esq.	5	2 3	180 R	31·10	191
,, (Bryn Euryn)	Mr. T. Hutchings	5	1 0	125 T	28·72	174
MERIONETH.						
+ Dolgelly (Brithdir = Werngoch)	O. Hill, Esq.	5	1 6	465 T	55·88	...
Bala (Eryl Arran)	Col. Wilson	8	1 0	590 T	51·37	199
D Llanderfel (Palé Gardens)	Mr. T. Ruddy	8	1 0	606 R	42·21	233
Blaenau-Ffestiniog (Cefn-faes)	E. Parry Jones, Esq.	8	0 10	748	101·17	199
D Rhiwbryfdir	Mr. R. Roberts	5	10 0	1100	*94·90*	166
D Corwen (Rhug Gardens)	Mr. J. Bennett	5	1 0	500	34·65	164
CARNARVON.						
*Llanystumdwy (Talarvor)	Dr. J. Roberts	5	2 0	49	35·08	182
D Clynnog	Miss Acland	18	1 10	63 B	42·14	184
Llandwrog (Glynllivan Park)	Hon. F. G. Wynn	5	1 0	80?	43·75	...
,, (,, Garden)	,, ,,	5	1 0	150	47·87	217
,, (,, Fort)	,, ,,	8	1 0	180	44·64	...
D Pen-y-gwryd Hotel	Mr. H. Owen	5	...	...	138·80?	164
D Llanberis (Glyn Padarn)	Major Allen	...	...	370	73·87	189
Carnarvon (Belan Fort)	Hon. F. G. Wynn	5	1 0	12	28·41	...
D ,, (Cocksidia)	J. Jackson, Esq.	5	1 0	120	37·53	196
,, (North Road)	W. T. Morgan, Esq. M.D.	5	1 0	60	36·22	...
D Dinorwic Quarry	Mr. J. Davies	5	4 0	850	55·02	185
D Llanbedr-y-Cennin (Llyndulyn)	T. T. Marks, Esq., C.E.	8	1 6	1622 T	124·40	174
Llanfairfechan	R. Luck, Esq.	5	0 8	150 B	37·55	187
D†Llandudno (Warwick House)	Dr. Nicol	8	0 8	99 R	28·19	182

DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground.	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
				ft. in.	ft. in.	inches.	
	ANGLESEA.						
D	Llangadwaladr (Bodorgan)	Mr. J. Gray	8	3 6	...	36·77	172
	Holyhead	The Meteor. Council	8	...	...	32·00	222
	LlanerchymeddLlwydiarthEsgob	T. Prichard, Esq.	5	1 0	112 L	40·19	219
	ISLE OF MAN.						
	Castletown (Langness)	Bd. of Northern Lights	...	...	...	30·10	...
	Derbyhaven	A. W. Moore, Esq.	5	1 0	20	26·49	...
	St. Marks	,, ,,	...	...	...	34·08	163
D	Douglas (Derby Square)	P. Killey, Esq.	5	1 1	78	37·33	205
D	,, (Victoria Road)	H. Story, Esq.	8	1 0	120 L	43·43	212
	,, (Prospect Hill)	A. W. Moore, Esq.	5	1 0	85	38·54	194
	,, (Cronkbourne)	,, ,,	8	0 10	138 ⅄	44·89	207
	,, (Clypse, Onchan)	,, ,,	8	1 0	439 T	46·64	230
	The Dhoon	,, ,,	5	1 0	450 T	56·57	202
	Andreas	,, ,,	5	0 6	72 T	33·49	158
	Point of Ayre	Bd. of Northern Lights	...	...	...	23·93	129
	ISLES OF SCILLY.						
	St. Mary's	The Meteor. Council	8	1 6	77 L	32·35	215
D†	Tresco Abbey	T. A. D. Smith, Esq.	12	3 0	40	35·29	206
	JERSEY.						
	St. Helier (Hastings Terrace)	W. L. Lancaster, Esq.	5	1 0	21	32·43	159
	St. Aubins (Noirmont)	The Meteor. Council	8	1 0	270	33·81	190
	GUERNSEY.						
D	Les Ruettes Brayes (Le Hechat)	A. Collenette, Esq.	5	1 0	255 L	34·33	221
	,, ,, (,, ,,)	,, ,, ,,	5	1 0	255 L	*34·08*	...
D	Villa Carey	Dr. Carey	8	1 7	180	30·48	176

SCOTLAND.

DIVISION XII.—SOUTHERN COUNTIES.

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground.	Height Above SeaLevel	Depth of Rain. 1890	Days on which ·01 or more fell.
	WIGTON.						
	Mull of Galloway	Bd. of Northern Lights	...	...	...	36·06	150
D	Garliestown (Galloway Ho.)	Mr. J. Day	5	4 6	20 ?	38·94	166
D	Stoneykirk (Ardwell House)	M.J.Stewart,Esq.,M.P.	8	1 0	125	37·86	129
	Newton Stewart (Corsbie)	The Hon. Mrs. Stewart	6	0 10	100	41·25	...
	Loch Ryan Lighthouse	Bd. of Northern Lights	...	...	...	42·90	110
	Corsewall	,, ,, ,,	...	3 4	22 ?	24·83	108
	KIRKCUDBRIGHT.						
	Little Ross	Bd. of Northern Lights	...	3 3	130 ?	27·77	119
D	Kirkcudbright (Senwick)	A. J. Corrie, Esq.	5	1 0	113 T	40·28	217
	,, (,,) M	,, ,, ,,	5	1 0	113 T	39·61	...
	St. Mary's Isle	Mr. Browning	5	0 4	...	44·78	...
	Auchencairn (Torr House)	W. Ovens, Esq.	5	0 8	30	42·70	...
	Dalbeattie (Colvend Manse)	Rev. J. Fraser	5	1 6	120 T	38·93	...
	Gatehouse (Cally)	Dr. Buchan	5	1 0	140	50·85	199
	*Dalbeattie (Station Road)	Mr. W. McBride	5	0 8	50	45·98	140
	Castle Douglas (Slogarie)	H. A. Timms, Esq.	5	1 0	300	53·24	...
D	Cargen [Dumfries]	P. Dudgeon, Esq.	5	0 4	80 T	39·53	185
D	New Galloway (Glenlee)	Mr. W. Melville	5	1 3	208	54·62	227
	Irongray (Drum park) *old g.*	D. J. Kay, Esq.	3	0 6	230	53·85	...
	,, (,, ,,)	,, ,,	5	0 6	230	49·85	...
D	Dalry (Dalshangan)	T. R. Bruce, Esq.	8	0 6	500	48·67	164
	DUMFRIES.						
D	Dumfries (Ivy Bank)	Rev. W. Andson	5	0 10	70 T	37·12	209
	Canobie (Byreburnfoot)	W. Doughty, Esq.	3	0 8	160	43·38	...
	Langholm (Westwater)	W. Elliot, Esq.	5	1 6	550 T	64·35	...
	,,	Mr. D. Elder	5	1 0	270 T	51·06	189
D	Moniaive (Maxwelton House)	Rev. Sir E. Laurie, Bt.	8	1 4	400 T	45·93	207
	,, (,, Garden)	,, ,, ,,	5	1 4	350 T	45·73	196
	Langholm (Ewes School)	Mr. J. C. Lyall	3	1 0	445 T	48·05	...
	,, (,, Burnfoot)	J. C. Little, Esq.	3	0 6	541 T	52·22	...
	Thornhill (Capenoch Gardens)	Mr. J. Dunlop	5	...		34·38	...
	Durrisdeer (Drumlanrig Castle)	Mr. D. Thomson	3	1 0	191 T	38·70	...
	Moffat (Craigielands)	J. Smith, Esq.	5	0 9	360 ?	52·14	...
	,, (Ericstane)	J. J. Welsh, Esq.	3	0 6	550	44·60	...
	ROXBURGH.						
	New Castleton (The Flatt)	J. Elliot, Esq.	3	0 9	350 T	40·40	...
D	Hawick (Wolfelee)	J. T. S. Elliot, Esq.	5	0 6	587	35·71	190
	,, (Branxholme)	W. E. Lockhart, Esq.	3	0 3	451 T	31·55	...

DIVISION XII.—SOUTHERN COUNTIES (*continued*).

STATIONS.	AUTHORITIES.	Rain Guage. Diameter	Height Above Ground.	Height Above SeaLevel	Depth of Rain. 1890	Days on which .01 or more fell
			ft. in.	feet.	inches.	
ROXBURGH—(*con.*)						
D*Jedburgh (Sunnyside)	G. Hilson, Esq.	5	6 0	351 ⅄	26·06	164
D St. Boswell's (Elliston)	The Hon. G. Dalrymple	5	1 0	352	27·03	192
Kelso (Springwood Park)	Mr. W. Chaplin	10	1 0	130 L	26·80	148
,, (Broomlands)	Dr. Buchan	...	...	205	28·86	241
D Melrose (Asylum) *old g.*	Mr. Pattman	5	0 6	480 T	28·19	250
,, (,,)	,, ,,	5	1 0	480 T	28·11	250
D ,, (Abbey Gate)	Mr. A. B. Dodds	5	0 6	280 T	28·97	221
Wooplaw [Galashiels]	J. Murray, Esq.	5	1 0	880 ⅄	31·48	186
DIVISION XIII.—SOUTH EASTERN COUNTIES.						
SELKIRK.						
D Selkirk (The Hangingshaw)	Miss Johnstone	5	0 6	670 T	34·12	208
Galashiels (Abbotsford Rd.)	Dr. Somerville	5	0 6	416 T	31·52	224
PEEBLES.						
Innerleithen (The Glen)	Dr. Buchan	...	...	...	36·70	...
Manor (Glenrath)	Mr. S. Linton	5	4 0	764 ⅄	44·90	...
Innerleithen (Runic Cross)	Mr. R. Mathison	5	1 0	474 ⅄	34·85	...
,, (Leithen Lodge)	Mr. D. Clark	11	0 0	700 T	36·61	...
D Peebles (Kailzie)	Captain W. C. Black	5	3 6	559 ⅄	40·85	195
Eddlestone (Portmore Res.)	W. Anderson, Esq.	11	0 6	1000	41·35	209
D N. Esk Reservoir [Penicuick]	Mr. J. Garnock	11	0 6	1150 ⅄	50·05	209
BERWICK.						
D Coldstream (The Hirsel) *new g.*	Mr. Cairns	5	1 0	75 ⅄	24·81	191
D Marchmont House	Mr. P. Loney	5	1 0	500 T	34·52	224
Dunse (Clouds)	C. Watson, Esq.	8	0 6	500 T	31·51	...
D ,, Castle	Mr. R. Aikman	5	1 0	500	29·58	161
St. Abb's Head	Bd. of Northern Lights	...	0 4	211	21·47	149
HADDINGTON.						
Garvald (Donolly Reservoir)	Mr. G. Lumsden	11	0 2	600 T	35·16	...
D Haddington (Asylum)	J. Mowat, Esq.	5	1 0	238 T	29·23	251
Prestonkirk (Smeaton)	Dr. Buchan	...	...	100	25·62	164
North Berwick Reservoir	Mr. G. Lumsden	11	0 2	150 T	29·02	...
EDINBURGH.						
Moorfoot Hills (Bowbate)	W. Anderson, Esq.	...	...	...	57·05	..
,, ,, (Gladhouse Res.)	,, ,,	11	0 6	900	39·02	202
,, ,, (Rosebery)	,, ,,	11	0 6	750	31·28	139
Pentland Hills (Crosswood)	,, ,,	11	0 6	950	45·60	...
D Gorebridge (Middleton)	Miss Anstruther	5	0 6	750	37·46	249
Penicuick (Edgelaw Res.)	W. Anderson, Esq.	11	0 6	654	29·90	136
Pentland Hills (Harper rig)	,, ,,	11	0 6	900	39·26	...
,, ,, (Harehill)	,, ,,	11	0 6	1470	54·50	...
,, ,, (Loganlea)	,, ,,	11	0 6	850	48·50	...
West Calder (Addiewell)	J. Fyfe, Esq.	5	0 6	600	41·55	...
Pentland Hills (Swanston)	W. Anderson, Esq.	11	0 6	550	34·30	...
,, ,, (Glencorse Res.)	,, ,,	11	0 6	787	44·43	155

DIVISION XIII.—SOUTH EASTERN COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	EDINBURGH—(*con.*)						
	Pentland Hills (Harlaw)	W. Anderson, Esq.	11	0 6	800	35·40	...
	,, ,, (Clubbiedean Res)	,, ,,	11	0 6	750	37·20	...
	,, ,, (Harbour Hill)	,, ,,	11	0 6	1112	40·60	...
	Colinton (Fernielaw)	A. Leslie, Esq., C.E.	11	0 6	500	31·40	...
D	Dalmahoy	Countess Dow. of Morton	5	0 10	358	33·23	175
D	Gilmerton Station	Mr. J. J. Bell	5	0 6	240	28·76	168
	Liberton (Alnwick Hill Res.)	W. Anderson, Esq.	11	0 6	400	34·08	147
	Portobello (Joppa)	R. Muirhead, Esq.	5	1 0	25 T	25·22	...
	Edinburgh (Blacket Place)	R. C. Mossman, Esq.	5	0 8	252 T	30·64	198
D	,, (Charlotte Square)	A. Leslie, Esq., C.E.	11	0 6	230	26·77	...
	,, (,, ,,)	,, ,, ,,	12	63 0	300	21·15	...
	,, (Royal Observatory)	Dr. Copeland	5	23 0	370	18·29	...
	,, (Cumin Place)	Dr. Buchan	5	1 0	162	30·09	...
	,, (Streatham Ho.)	,, ,,	...	...	...	26·90	...
	,, (Napier Road)	,, ,,	...	...	...	28·79	...
	Leith	The Meteor. Council	8	1 8	22	25·95	187
	,, (Navigation School)	Dr. Buchan	5	0 5	70	29·78	220
	LINLITHGOW.						
D	Whitburn (Polkemmet)	Lady Baillie	5	2 0	600 T	51·24	224
	Uphall	J. Fyfe, Esq.	5	0 9	380	31·33	...
	Linlithgow (Rockville)	Mrs. Adie	3	0 9	260	30·70	...
	,, (,,)	,, ,,	11	5 10	260	31·75	...
	Bo'ness (Grange)	H. M. Cadell, Esq.	3	1 0	20	28·95	...

DIVISION XIV.—SOUTH WESTERN COUNTIES.

	LANARK.						
D	Douglas (Newmains)	Mr. J. Kerr	3	0 4	783	54·48	237
D	Biggar (Cambus Wallace)	Captain Paul	6	0 6	748 ⇈	33·24	193
	Cleghorn	W. E. Lockhart, Esq.	3	0 3	720	35·14	...
D	Dalzell House	Lord Hamilton	6	5 6	89 T	33·60	161
	Hamilton Water Works	Mr. R. Watson	7	1 0	436 T	33·35	...
D	,, (Ardenclutha)	Rev. T. M. B. Paterson	5	1 9	260 ⇈	35·48	185
	Bothwell Castle	Mr. W. F. Archibald	10	18 0	146 T	29·88	179
	Airdrie (Hillend Reservoir)	Mr. W. A. Ritchie	6	4 6	620 ⇈	42·28	...
	Glasgow Observatory	Prof. Grant, F.R.S.	11	1 9	182	38·89	214
	,, (Belvedere Hospital)	Dr. Buchan	...	...	54	37·73	179
	AYR.						
D	Ballantrae (Glendrishaig)	P. Murdoch, Esq.	5	1 0	320	45·23	196
	Barrhill (Dochroyle) M	Mr. J. Scott	6	0 6	548 T	55·35	...
D	Colmonell	R. Aitken, Esq.	6	0 6	100 T	44·32	195
D	Girvan (Pinmore)	Capt. Hamilton	5	1 0	187 ⇈	51·45	219
	Ailsa Craig	Bd. of Northern Lights	...	...	...	22·89	123
	Loch Finlas	J. Wilson, Esq., C.E.	5	1 0	849 ⇈	52·18	212
	Girvan (Turnberry)	Bd. of Northern Lights	...	...	...	29·89	113

DIVISION XIV.—SOUTH WESTERN COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which .01 or more fell.
				ft. in.	feet.	inches.	
	AYR—(*con.*)						
D	Dalmellington (Benquhat)	A. Gillespie, Esq.	...	1 6	1128	61·90	242
	Maybole (Culzean Gardens)	Mr. D. Murray	9	3 6	250	36·45	...
	Ayr (Auchinlee)	J. Drennan, Esq.	6	3 0	36 T	32·46	...
	New Cumnock (Knockencorsan)	J. Wilson, Esq., C.E.	6	1 0	...	70·90	...
D	Old Cumnock	The late Mr. Ballantine	5	1 0	380 ⊼	46·41	215
	,, ,,	Mr. H. Neal	5	1 0	285	43·53	...
	Ardrossan	The Meteor. Council	8	1 0	10	34·53	183
D	,, (Kirkhall)	H. F. Weir, Esq.	8	2 9	106 ⊼	36·88	203
	Paisley W. W. (Camphill)	R. Sharp, Esq.	12	1 6	611	60·70	...
	Wemyss Bay (Ashcraig)	Miss Stewart	10	2 10	30	53·31	...
	Shaws W. Works (Kelly Dam)	J. Wilson, Esq., C.E.	6	1 0	640 ?	71·00	...
	RENFREW.						
	Lochwinnoch (Castle Semple)	Mr. W. Thorburn	6	30 0	240	45·69	228
Paisley Gorbals's Dist.	Ryat Lynn	J. M. Gale, Esq., C.E.	8	0 5	310	54·60	...
	Waulk Glen	,, ,, ,,	12	0 5	280	53·05	...
	Middleton	,, ,, ,,	12	0 5	550	59·95	...
	Nether Cairn	,, ,, ,,	...	...	700	63·55	...
Paisley W. Works	Stanely	R. Sharp, Esq.	12	1 0	190	38·20	...
	Back Thornleymuir	,, ,,	12	1 0	646	49·61	...
	Muirhead	,, ,,	12	1 0	482 ⊼	56·46	...
	Springside	,, ,,	12	1 0	532 ⊼	63·97	...
D	Glasgow (Queen's Park)	Mr. D. McLellan	8	0 5	144 ⊼	38·04	195
	Paisley (Crookston)	Major Hotchkis	...	...	...	35·70	...
	,, (The Coats Observatory)	Dr. Buchan	10	1 0	100	41·62	217
Shaws Water Works.	Creuch Hill	J. Wilson, Esq., C.E.	6	1 0	...	60·80	...
	Green Water	,, ,, ,,	6	1 0	788 ⊼	74·20	...
	Gryfe Reservoir	,, ,, ,,	6	1 0	640 ⊼	66·60	...
	Mansfield	,, ,, ,,	5	1 0	573 ⊼	68·30	258
	Compensation Reservoir	,, ,, ,,	6	1 0	600	67·09	280
	Loch Thom	,, ,, ,,	5	1 0	643 ⊼	74·24	280
	Shielhill	,, ,, ,,	6	1 0	962 ⊼	61·70	...
	Spango Burn	,, ,, ,,	6	0 9	757 ⊼	61·20	...
	Hole Glen	,, ,, ,,	5	1 0	603	64·62	261
	New Yetts Dam	,, ,, ,,	5	1 0	800	60·94	262
D	Prospect Hill	,, ,, ,,	5	1 0	200	60·98	224
	Port Glasgow (Dougliehill Res.)	,, ,, ,,	5	0 9	549 ⊼	51·78	176
	,, ,, (Auchendoors Res)	,, ,, ,,	5	0 9	321 ⊼	45·70	176

DIVISION XV.—WEST MIDLAND COUNTIES.

	DUMBARTON.						
	New Kilpatrick (Chesters)	J. Kennedy, Esq.	5	1 0	240 T	46·95	...
D	Dumbarton (Leven Shipyard)	Messrs. Denny, Bros.	5	1 0	21 T	46·17	215
	Helensburgh (Lyleston)	Forrest Frew, Esq.	6	0 6	120	45·70	...
D	,, (Water Works)	J. R. Wilson, Esq.	6	0 6	300	51·34	230
	Arrochar	Rev. J. Dewar	5	0 9	12	88·68	...

DIVISION XV.—WEST MIDLAND COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	STIRLING.						
	Strathblane (Mugdock Reservoir)	J. M. Gale, Esq., C.E..	8	0 6	320	53·80	...
D	,, (Craigend Castle) ...	Sir J. Buchanan, Bart.	5	0 9	543 T	63·48	228
	Falkirk (Kerse)	A. Brown, Esq.	8	1 0	...	32·60	...
D	Killearn (Old Ballikinrain)	Mr. J. Smith	5	0 6	265	56·23	189
	Stirling (Polmaise Gardens).....	Mr. W. W. Ritchie ...	6	1 0	12	34·66	...
D	Buchlyvie (The Manse).	Rev. J. A. Macdonald..	5	1 3	118 T	53·72	240
	Ben Lomond	J. M. Gale, Esq, C.E...	...	...	1800	84·80	...
	BUTE.						
	Arran (Pladda)	Bd. of Northern Lights	...	3 3	55 ?	37·65	150
	Holy Island (Lamlash)	,, ,, ,,	...	...	...	56·60	128
	Kingarth (The Plan).....	H. Hastings, Esq.....	5	1 0	...	39·82	..
D	Rothesay (Barone Cottage)	J. Kay, Esq.	5	1 0	116 ⅄	51·56	233
D	,, (Crichton Road).....	H. Lauder, Esq.....	5	4 0	97	54·65	250
	ARGYLL—(MAINLAND.)						
D	Holy Loch (Rosmor)	W. R. W. Smith, Esq.	5	1 1	30	79·65	224
	Ardrishaig	Dr. Buchan.....	8	0 6	14	72·50	...
D	Lochgilphead (Kilmory) *Snowdon*	Sir J. Campbell Orde, Bt.	5	...	...	67·43	242
D	,, (Poltalloch)	Mr. J. Russell	3	4 6	135	57·10	205
	,, (,,)	,, ,, ...	5	0 4	121	56·72	204
D	Inverary Castle	Mr. G. Taylor	5	1 0	40	88·57	240
D	,, (Newtown).....	Mrs. Little.....	5	1 0	17	80·61	248
D	Oban (Craigvarren)	G. W. Brenan, Esq., C.E.	5	1 0	143	66·21	239
	,, (The Corran)	Dr. Bailey	5	1 0	20	63·65	240
	Appin (Aird's)	R. Macfie, Esq.	5	0 11	41 ⅄	67·40	...
D	Morvern (Drimnin)	Mrs. Gordon	5	...	...	69·33	274
	Ballachulish	D. Campbell, Esq., M.D.	8	0 1	22	95·84	232
D	Strontian (Laudale)	A. Fletcher, Esq.	8	1 0	15 ⅄	87·38	267
D	Loch Sunart (Glenborrodale) ...	J. J. Dalgleish, Esq....	5	0 2	60 L	88·66	243
D	Ardgour House	Mr. D. Maclean	3	0 10	72	63·00	144
	Ardnamurchan	Bd. of Northern Lights	...	3 6	28 ?	32·60	163
D	,, (Achateny).....	Mr. R. Coltart	5	0 2	61 ⅄	73·31	250
	Loch Eil (Corran)	Bd. of Northern Lights	...	0 4	14 ?	102·26	218
D	,, ,, (Conaglen)	Countess Dow. of Morton	5	0 10	36	98·53	223
	ARGYLL—(INSULAR.)						
	Sanda	Bd. of Northern Lights	...	...	...	23·57	137
	Cantire, Mull of.....	,, ,, ...	...	...	279 ?	41·85	164
	,, (Campbeltown, Devaar)	,, ,, ...	...	3 4	75 ?	44·01	202
	,, (Skipness Castle)	Mr. P. McLean	6	1 6	20	57·99	...
	,, (Stonefield, Tarbert) ...	Colin G. Campbell, Esq	3	1 3	90	80·57	...
D	Islay (Ardbeg)	C. Hay, Esq.	5	7 0	46	43·88	206
	,, (Rhinns)	Bd. of Northern Lights	...	3 0	74 ?	38·16	...
	,, (Lochindaul).....	,, ,,	...	...	...	58·01	196
	,, (McArthurshead).....	,, ,,	...	...	...	45·01	160
D	,, (Eallabus).....	J. S. R. Ballingal, Esq..	5	1 0	68 T	52·01	212
D*	,, (Gruinart School Ho.) *old g*	Mr. D. Mac Gilp	5	1 0	214 ⅄	53·20	236

DIVISION XV.—WEST MIDLAND COUNTIES—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above SeaLevel	Depth of Rain 1890	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	ARGYLL—(INSULAR)—(*con.*)						
	Islay (Rhuvaal)	Bd. of Northern Lights	...	...	...	42·01	190
	Jura (Bay of Small Isles)	H. Evans, Esq.	...	...	...	71·20	...
	,, (Lowlandmansbay)	Bd. of Northern Lights	...	...	...	60·43	196
	,, (Fladda)	,, ,,	...	...	...	72·75	148
	,, (Ardfin)	Miss E. Campbell	5	0 6	130	58·17	...
	Lismore (Mousedale)	Bd. of Northern Lights	...	3 4	37 ?	48·86	178
	Mull (Earraid)	,, ,,	...	...	...	47·97	120
D	,, (Quinish)	J. N. Forsyth, Esq.	5	0 9	35	66·12	244
	,, (Sound of)	Bd. of Northern Lights	...	...	...	68·67	179
	Coll (Arnagour Hotel)	Mr. McKinnon	5	1 6	15	50·58	223

DIVISION XVI.—EAST MIDLAND COUNTIES.

	CLACKMANNAN.						
	Alloa (Mar Street)	J. Melville, Esq.	5	0 6	70	32·08	...
	Tillicoultry (TillicoultryHo) No 1	Col. A. Mitchell	5	1 1	200 ?	42·52	...
	,, (,, ,,) No 2	,, ,,	5	1 1	200 ?	42·68	...
D	Dollar	Mr. A. Blackwood	9	1 0	178	40·67	171
	KINROSS.						
	Loch Leven Sluice	Mr. W. Clark	7	0 7	360 L	37·20	132
D	Kinross (Turfhills)	G. Henderson, Esq.	5	0 6	400 ⅄	44·71	194
	FIFE.						
	Inchkeith	Bd. of Northern Lights	...	...	160	21·47	...
D	Dunfermline (Keavil)	L. Dalgleish, Esq.	5	0 2	150	26·64	208
D	,, (Outh)	,, ,,	5	0 2	890	30·15	...
	Isle of May	Bd. of Northern Lights	...	..	...	21·96	...
	Pittenweem (The Priory)	Rev. F. K. Lloyd	5	0 10	50	24·51	...
	Kilconquhar (Balcarres)	Mr. E. Tate	5	0 6	300 T	35·73	209
D	Strathmiglo (Leden Urquhart)	J. Thom, Esq.	5	1 0	615 T	35·92	160
D	Cupar (Fife & Kinross Asylum)	Dr. Turnbull	5	0 4	210	20·25	152
	St. Andrews (Castle Cliff)	Dr. Buchan	...	...	65	30·34	...
	Kilmany (Mountquhanie House)	D. Gillespie, Esq.	3	1 3	240	30·80	...
	Tayport	D. Cunningham, Esq.	5	1 0	27	29·15	167
	PERTH.						
D	Culross (West Grange)	J. J. Dalgleish, Esq.	5	0 2	116 ⅄	25·69	119
	Blairingone [Dollar]	Rev. J. F. Cameron	5	1 6	300 T	42·11	...
	Aberfoyle	J. M. Gale, Esq., C.E.	8	0 6	60	56·15	...
	Dunblane (Kippendavie)	P. Stirling, Esq.	3	...	362 T	36·55	...
	,, (Kippenross)	,, ,, ,,	3	0 4	150 ⅄ ?	35·55	...
	Sheriff Muir (Lynns Farm)	,, ,, ,,	...	1 0	680	30·10	...
	Loch Dhu	J. M. Gale, Esq., C.E.	8	0 6	325	78·50	...
	Ledard	,, ,, ,,	...	...	1500	54·75	...
	Loch Drunkie	,, ,, ,,	8	0 6	420	65·00	...
	,, Vennachar	,, ,, ,,	8	0 6	275	54·90	...

DIVISION XVI.—EAST MIDLAND COUNTIES—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
				ft. in.	feet.	inches.	
	PERTH—(*con.*)						
D	Lanrick Castle	Mr. J. Begg	3	1 0	...	47·15	151
	Bridge of Turk	J. M. Gale, Esq., C.E.	8	0 6	275	63·75	...
	Loch Katrine (Tunnel Hill Top)	,, ,, ,,	8	0 6	830	82·80	...
	Between Glen Finlas & Ben Ledi.	,, ,, ,,	8	0 6	1800	51·50	...
	Callander (The Gart)	C. C. Ainslie, Esq.	5	0 7	250	54·71	...
	,, (Leny)	J. B. Hamilton, Esq.	3	0 4	345 T	57·10	...
	Glen Gyle	J. M. Gale, Esq., C.E.	...	...	380	95·10	...
D	Balquhidder (Stronvar)	J. Dickson, Esq.	6	1 0	422 T	75·28	248
D	Comrie (Dalginross)	P. McRostie, Esq.	5	0 5	200 T	48·05	222
	Crieff (Ochtertyre)	Mr. G. Croucher	5	3 0	326 T	37·96	201
	Perth (Rosebank)	Dr. Buchan	...	...	140	34·88	197
	,, (Huntingtower Field)	Mr. A. Bayne	6	1 0	40	30·50	...
D	Coupar Angus Station	Mr. J. Robertson	5	1 3	183 T	30·45	186
D	Dunkeld (Inver Braan)	Rev. J. M. B. Murdoch	...	1 0	500 ?	40·49	167
	Meigle (Arthurstone House)	Late P. Carmichael, Esq.	5	2 3	187 ⅄	30·73	...
	,, (,, Garden)	,, ,, ,,	5	2 3	196 ⅄	32·08	...
D	Dalnaspidal (H.R.S.)	The Station Agent	5	3 0	1414 T	66·03	276
	FORFAR.						
	Buddonness	D. Cunningham, Esq.	5	1 0	17	24·88	150
D	Dundee (Harbour)	,, ,, ,,	5	0 10	14	29·58	214
D	Broughty Ferry (Douglas Ho.)	Mr. K. Graham	5	5 6	60 ⅄	28·56	176
D	Dundee (Eastern Necropolis)	W. B. McKelvie, Esq.	3	0 4	199 T	28·90	144
D	,, (,, ,,) *new*	,, ,, ,,	3	0 4	199 T	29·52	210
D	,, (Camperdown Jute Works)	The Storekeeper	5	3 8	290	24·83	124
D	Monifieth (Fountain Brae)	Messrs. Laird & Sinclair	6	1 0	55	28·17	145
D	,, (Sea View)	W. Low, Esq.	8	1 0	83 ⅄	27·86	190
D†	Craigton	J. Watson, Esq., C.E.	8	1 0	481	39·93	175
†	,, M	,, ,, ,,	11	0 3	481	36·63	...
†	Crombie Reservoir M	,, ,, ,,	11	0 3	522 T	34·48	...
†	Hill Head M	,, ,, ,,	11	0 3	570 T	35·99	...
D	Arbroath (Waterworks)	W. Stewart, Esq., C.E.	5	0 11	58	25·37	172
D	,, (,, tower)	,, ,, ,,	5	48 0	157	18·39	155
D	Kirriemuir (Lednathie)	Mr. W. Morrison	5	1 0	720	42·56	203
D	,, (Lintrathen)	J. Watson, Esq., C.E.	8	1 0	700	33·28	169
	,, (,,) M	,, ,, ,,	8	1 0	700	34·00	...
	,, (,, Creich Hill)	,, ,, ,,	8	1 0	1500	34·95	...
	Montroseness	Bd. of Northern Lights	...	...	...	26·21	...
	Montrose (Water Works)	J. Anderson, Esq.	6	4 0	...	29·36	119
	,, (Panmure Gardens)	,, ,, ,,	12	0 10	...	33·89	213
D	,, (Sunnyside Asylum)	Dr. J. C. Howden	5	0 10	200	27·91	142

DIVISION XVII.—NORTH EASTERN COUNTIES.

	KINCARDINE.						
	The Burn [Brechin]	Col. McInroy	5	0 6	250	32·30	...
	Fettercairn (Arnhall)	J. H. Hay, Esq.	5	0 8	194	32·67	...
	,,	A.C.Cameron Esq.LL.D	5	0 4	237 ⅄	28·83	173
	Girdleness	Bd. of Northern Lights	...	4 7	86	19·65	111

DIVISION XVII.—NORTH EASTERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1890	Days on which .01 or more fell.
			ft. in.	feet.	inches.	
ABERDEEN.						
D†Braemar	J. Aitken, Esq.	8	0 9	1114 T	39·18	214
Forest of Glen Tana	Sir W. C. Brooks, Bt..	5	1 0	576 T	27·62	...
D Cromar (Logie Coldstone Manse).	Rev. Dr. Davidson	5	1 0	694 R	29·91	200
,, (,, ,, Loanhead).	Mr. A. Farquharson	5	1 0	743 R	29·27	201
,, (Tillypronie)	Mr. R. Littlejohn	5	1 0	1120 R	30·17	219
D Aberdeen (Cranford)	D. McHardy, Esq.	5	1 0	120 T	32·68	256
† ,, (Rose Street)	Dr. A. Cruickshank	5	0 5	95 T	29·91	...
,,	The Meteor Council	...	...	...	32·44	246
,, (Gordon's Hospital)	Dr. Buchan	8	1 6	66 T	32·66	239
,, (King's College)	The Meteor. Council	11	2 0	48	32·50	237
D Midmar (Blackstock)	Mr. J. Barron	5	0 9	570 T	26·78	154
,, (Dun Echt Observatory)	Dr. Copeland	8	0 11	461 R	28·28	222
Inverurie Manse	Rev. Dr. Davidson	9	0 4	220	33·69	...
Ellon (Kermuck)	Mr. T. Mair	11	0 6	300 T	35·65	...
Haddo House	Mr. J. Forrest	5	0 8	197 T	32·87	...
Peterhead (Buchanness)	Bd. of Northern Lights	...	...	...	30·64	141
D New Deer (Artamford Cottage)	J. Joiner, Esq	5	1 0	551 R	36·71	253
D Old Deer	J. Walker, Esq.	5	2 0	135 R	36·91	247
Kinnairdhead	Bd. of Northern Lights	...	...	...	29·00	134
BANFF.						
D Keith (H.R.S.)	The Station Agent	5	1 0	364 T	33·56	194
Banff (Earl Hill)	A. Ramsay, Esq.	5	1 0	115 T	32·42	240
D Boyndie (Whitehills)	Rev. W. Anderson	5	1 0	68 R	30·77	225
Cullen House	Mr. J. F. Smith	5	1 0	100 T	29·85	...
ELGIN OR MORAY.						
Grantown	Mr. W. Duncan	5	1 1	712 R	30·77	196
Craigellachie(WesterElchiesSch)	Mr. J. Milne	8	1 0	560 T	31·03	159
,, (,, ,, ,,)	,, ,,	5	1 0	560	31·09	159
D Forres (H.R.S.)	The Station Agent	5	1 0	25	25·14	170
,, (Grange Hall)	J. Grant Peterkin, Esq.	5	1 0	55 T	25·10	...
Gordon Castle	Mr. C. Webster	8	1 0	107 R	28·43	...
D Elgin (Highfield)	A. Cameron, Esq.	5	1 0	80 T	27·66	207
NAIRN.						
Dunearn Lodge [Dava]	Dr. Buchan	...	...	..	27·73	...
Nairn (Achareidh)	Col. Clarke	8	1 0	50	25·51	205
,, (School Ho.)	The Meteor. Council	8	1 9	84	25·88	210

DIVISION XVIII.—NORTH WESTERN COUNTIES.

WEST ROSS.‡						
D Strome Ferry (H.R.S.)	The Station Agent	5	1 0	40 T	70·11	255
Applecross Gardens	Mr. D. McCowan	5	1 0	70 R	63·44	...
Strathconan [Beauly]	Mr. D. McIver	5	1 0	450	53·98	178
D Glencarron Lodge	D. D. Munro, Esq.	5	1 0	504	109·78	259
Loch Torridon (Bendamph)	Rt. Hon. Earl Lovelace	8	0 6	36	82·88	...

‡ Including Cromarty.

DIVISION XVIII.—NORTH WESTERN COUNTIES—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height above Ground. ft.	in.	Height above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
	WEST ROSS—(*con.*)					feet.	inches.	
	Loch Vraon	Sir J. Fowler, Bt.	8	0	7	750	66·82	...
	Braemore House	,, ,, ,,	8	0	7	750	66·54	...
	,, Lodge-Foich	,, ,, ,,	8	0	7	100	67·53	...
	Isle of Lewis (Stornoway)	Bd. of Northern Lights	...	3	4	31 ?	35·14	191
	,, (,,)	The Meteor. Council	8	1	0	24	49·99	272
	,, (Butt of Lewis)	Bd. of Northern Lights	...	3	6	...	34·41	122
	EAST ROSS.‡							
	Contin (Kinnahaird)	W. Ross, Esq.	...			...	32·78	193
D	Strathpeffer Spa	Dr. Fox	5	0	10	230	33·67	205
	Cromarty	Bd. of Northern Lights	...		...	...	21·90	169
D	Alness (Ardross Castle)	Mr. R. Massie	5	1	0	450 ⊼	38·43	201
D	Fearn (Lower Pitkerrie)	R. Gordon, Esq., C.E.	5	1	0	95	24·47	154
	,, (Geanies Mains)	Miss Hope Douglas	5	1	5	...	22·96	...
	Tarbetness	Bd. of Northern Lights	...	3	4	61 ?	31·15	132
	WEST INVERNESS.							
D	Ben Nevis Observatory	Dr. Buchan	5		...	4407	198·34	291
D	Fort William (Public School)	C. Livingstone, Esq.	5	1	0	36 ⊼	93·39	255
	Moidart (Roshven)	Prof. Blackburn	5	1	0	68 ⊼	76·02	264
D	Loch Shiel (Glenaladale)	Major Macdonald	5	1	2	50 ?	121·79	268
D	Borrodale (Arisaig)	Mr. A. Grant	5	1	0	20	78·88	262
D	Glenquoich	Mr. A. Grant	8	2	4	660	120·61	269
	Isle of Skye (Oronsay)	Bd. of Northern Lights	...	0	6	15 ?	61·21	212
	,, ,, (Kyle Akin)	,, ,, ,,	...	0	2	3 ?	62·79	184
	Rona	,, ,, ,,	...		...	...	49·03	152
	Barra (Barrahead)	,, ,, ,,	...	3	0	640 ?	28·64	196
	S. Uist (Ushenish)	,, ,, ,,	...	0	4	157 ?	88·60	191
	N. Uist (Monach)	,, ,, ,,	...		...	...	46·54	145
	,, (Loch Maddy)	Mr. G. McKay	5	1	0	...	57·64	...
	Harris (Island Glass)	Bd. of Northern Lights	...	3	4	50 ?	46·08	142
	EAST INVERNESS.							
D	Invergarry	Mrs. Ellice	5	1	0	...	66·64	141
D	Fort Augustus	Rev. E. G. Cody	5	1	6	68	49·30	234
D	Aviemore (H.R.S.)	The Station Agent	5	1	0	710	29·90	240
D	Loch Ness (Drumnadrochit)	Mr. A. Grant	5	1	0	104	32·78	229
	†Inverness (Culloden House)	D. Forbes, Esq.	6	4	0	104 T	24·68	...
D	Cawdor [Nairn]	J. Joss, Esq.	5	1	0	250 T	28·46	212

DIVISION XIX.—NORTHERN COUNTIES.

	SUTHERLAND.							
	Invershin	Mr. G. Young	5	4	0	20 T	33·77	...
D	Golspie (H.R.S.)	The Station Agent	5	0	9	27	34·42	129
D	,, (Dunrobin Castle)	Mr. D. Melville	5	1	0	14 ⊼	35·04	164
	,, (,, ,,)M	,, ,,	3	0	3	13 ⊼	34·50	...

‡ Including Cromarty.

DIVISION XIX.—NORTHERN COUNTIES—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height Above Ground	Rain Gauge. Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
SUTHERLAND—(*con.*)						
Lairg	The Meteor. Council ...	5	0 10	332	38·76	259
D ,, (H.R.S.)	The Station Agent... .	5	...	...	39·97	182
Stourhead	Bd. of Northern Lights	...	...	...	52·70	189
D Scourie	J. Simpson, Esq.	5	0 4	28	48·00	119
Cape Wrath	Bd. of Northern Lights	3	3 6	355 ?	43·69	133
CAITHNESS.						
Wick	The Meteor. Council ...	8	1 9	77	33·37	245
D† ,, (H.R.S.)	The Station Agent.....	5	1 0	...	32·93	111
† ,, (Nosshead)	Bd. of Northern Lights	8	4 8	127 ?	30·47	174
D†Watten (H.R.S.) ...	The Station Agent.....	5	2 6	75 ↑	30·32	232
Thurso (Holburnhead)	Bd. of Northern Lights	3	0 8	60 ?	33·10	151
Dunnethead	,, ,, ,,	...	3 0	...	37·50	179
Pentland Skerries	,, ,, ,,	...	3 3	72 ?	27·10	208
ORKNEY.						
D South Ronaldshay (Roeberry) ...	J. Gray, Esq.	5	1 2	101 ↑	34·60	233
Hoy (Cantickhead)	Bd. of Northern Lights	...	0 6	...	44·90	120
,, (Graemsay Sound, East=High)	,, ,, ,,	...	3 4	27 ?	37·90	157
,, (,, ,, West=Low)	,, ,, ,,	...	3 4	...	40·22	236
Pomona (Kirkwall)	Mr. J. W. Cursiter ...	5	0 6	30	39·77	198
Shapinsay (Balfour Castle)	Mrs. Balfour	4	0 6	50	38·30	...
Auskerry	Bd. of Northern Lights	...	...	...	37·10	134
Sanda (Start Point)	,, ,, ,,	11	0 6	29 ?	32·50	...
North Ronaldshay	,, ,, ,,	...	3 4	21 ?	33·22	104
SHETLAND.						
Sumburghead	Bd. of Northern Lights	...	...	...	31·82	167
,, (Dunroseness) ...	The Meteor. Council ...	8	1 0	84	36·24	260
Bressay Lighthouse	Bd. of Northern Lights	5	0 4	60	40·68	188

IRELAND.

DIVISION XX.—MUNSTER.

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Rain Gauge. Height above Ground.	Rain Gauge. Height above Sea Level	Depth of Rain. 1890	Days on which 01 or more fell.
				ft. in.	feet.	inches.	
	CORK.						
D	Dunmanway (Coolkelure)	Col. Shuldham	5	1 6	500 T	72·39	247
	Roche's Point.....	The Meteor. Council ...	8	1 9	32	45·39	195
	Carrigaline (Ravenswood).....	Miss Westropp	5	1 0	130 L	41·79	...
D	Cork (Blackrock)	J. B. Binyon, Esq. ...	8	5 0	30 T	38·25	186
D	,, (Clarence Place)	W. Miller, Esq.....	5	1 0	106 T	39·19	212
	Mallow (Old Dromore)	B. Williamson, Esq. ...	5	1 11	291 T	38·04	...
D	Fermoy (Gas Works).....	Mr. J. Grant	5	1 1	...	36·18	177
	KERRY.						
D	Darrynane Abbey	D. O'Connell, Esq.....	5	1 0	13 T	53·01	263
	Kenmare (Derreen)	Mr. W. Holbrow	5	1 0	74 T	70·08	218
D	Dromore Castle	R. J. Mahony, Esq. ...	5	0 6	50 L	65·89	207
	Valencia (Telegraph Station) ...	The Meteor. Council ...	8	1 0	12	57·56	275
	,, (Observatory).....	,, ,, ,,	...	...	...	58·05	257
D	Killarney (Woodlawn)	VenArchdeacon Wynne	5	1 0	96 T	56·09	234
	Dingle.....	Rev. J. B. Anderson...	5	1 0	10 ?	60·05	...
	Ballyheigue	VenArchdeacon Wynne	5	1 0	30	37·77	...
	WATERFORD.						
D	Knockaderry	M.J.Fleming,Esq. C.E.	5	0 8	230 T	40·69	243
D	Waterford (Brook Lodge).....	C. P. Bolton, Esq., C.E.	5	1 0	100 T	36·53	201
	,, (Ticor)	M.J.Fleming.Esq.C.E.	5	0 7	171 T	33·65	184
	,, (Newtown)	T. N. Harvey, Esq. ...	11	12 9	77	31·14	...
D	Portlaw (Mayfield).....	J. Anderson, Esq.	5	4 0	70	37·80	189
D	Glenam [Clonmel]	Miss Grubb..... ..	8	1 4	80 T	39·94	215
	TIPPERARY.						
D	Tipperary (Henry Street).....	J. Dowling, Esq., M.D.	5	1 0	400 ?	35·93	228
D	Fethard (Mobarnane)	Dr. Donaldson	5	1 2	370	31·66	188
D	Derry Castle [Killaloe]...	Mr. T. Manly.....	5	1 6	580 T	47·18	247
D	Nenagh (Clashnevin).....	J. Mounsey, Esq.	5	1 2	300 T	30·65	208
	,, (Castle Lough)	A. Parker, Esq.....	5	1 3	120 T	38·94	229
D	Ballingarry (Hazelfort)	Mrs. Fraser.....	5	1 0	...	33·88	217
	LIMERICK.						
	Newcastle West (Churchtown)...	J. Horan, Esq.	5	1 0	234 T	40·22	245
	Jane Ville [Tipperary]	R. Harding, Esq.	5	1 0	366	46·31	...
	Foynes	The Meteor. Council ...	..	...	...	40·79	247
D	Limerick (Roxborough).....	A. W. Shaw, Esq.....	8	1 6	112 T	36·55	191
	,, (Kilcornan)	Mr. J. Smyth.....	5	1 0	...	31·55	...

DIVISION XX.—MUNSTER—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1890	Days on which ·01 or more fell.
			ft. in.	feet.	inches.	
CLARE.						
Sixmilebridge (Kilkishen)	Rev. Canon Lloyd	5	4 4	113 ⅄	37·16	208
D Broadford (Hurdlestown)	Capt. Bentley	5	1 0	164	35·56	248
D Ennis	J. Hill, Esq., C.E.	10	18 0	21 L	39·30	218
,, (Roslevan)	Mrs. Scott	5	1 9	40	35·09	198
D Miltown Malbay	M. Molohan, Esq.	5	1 0	400 T	49·46	264
DIVISION XXI.—LEINSTER.						
WEXFORD.						
D New Ross (Longraigue)	J. W. Deane, Esq.	5	1 0	210 T	34·72	195
Wexford (Alma)	E. K. Ryan, Esq.	5	1 6	50 ⅄	38·98	...
D ,, (Felt House)	W. Charlton, Esq.	5	3 3	0	29·98	154
D Enniscorthy (Ballyhyland)	J. Moffat, Esq.	5	1 0	365 T	38·78	226
D Oulart (Wells)	C. M. Doyne. Esq.	5	1 0	...	30·53	202
D Gorey (Courtown House)	Rt Hon Earl of Courtown	5	3 0	80 T	30·82	202
KILKENNY.						
Rosbercon Castle [New Ross]	A. E. Graves, Esq.	10	2 6	60	28·80	144
D Inistioge (Woodstock)	Lady Louisa Tighe	5	1 0	400 T	38·83	193
Graigue (Brandondale)	R. R. Burtchaell, Esq.	5	2 0	90 T	36·17	...
Kilkenny (Lavistown)	D. A. Milward, Esq.	5	1 0	180 T	28·18	201
,, Castle	The Meteor. Council	8	...	...	31·21	200
WICKLOW.						
D Enniskerry (Parknasilloge)	Dr. Barrington	10	4 0	450	46·60	222
D† Bray (Fassaroe)	R. M. Barrington, Esq.	10	5 0	250	40·04	207
CARLOW.						
D Borris	Hon. E. S. Stopford	5	0 6	281	31·14	205
Bagnalstown (Fenagh House)	D. R. P. Beresford, Esq	5	1 0	340	37·98	196
D Carlow (Browne's Hill)	W. Browne Clayton, Esq	5	1 0	291 ⅄	31·61	214
QUEEN'S COUNTY.						
Abbey Leix (Blandsfort)	J. L. Bland, Esq.	5	3 0	532 ⅄	35·20	221
KING'S COUNTY.						
Parsonstown (Birr Castle)	The Meteor. Council	8	0 11	180	32·89	208
D ,, (,, ,,)	Rt Hon Earl of Rosse FRS	8	0 7	176	30·60	222
KILDARE.						
D Straffan House	Mr. F. Bedford	5	2 0	240	30·37	181
DUBLIN.						
D Carrickmines (Claremount)	C. Joynt, Esq., M.D.	5	1 2	270	29·88	198
D Killiney (Cloneevin)	R. O'B. Furlong, Esq.	5	1 0	250 T	?19·93	181
D ,, (Eirine)	Rev. H. Palmer	5	1 0	50	24·33	185
Dalkey (Belle vue Park)	Mr. J. Kevans	6	1 3	200	27·13	146
D† Dublin (Fitz William Square)	J. W. Moore, Esq., M.D.	5	3 2	54 T	27·56	200
,, (Upper Leeson Street)	G. D. Powell, Esq., M.D.	5	0 6	49 ⅄	25·20	211

DIVISION XXI.—LEINSTER—(*continued*).

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above Sea Level	Depth of Rain. 1890	Days on which .01 or more fell.
				ft. in.	feet.	inches.	
	DUBLIN—(*con*).						
D	Dublin (Phœnix Park)	Major Kirkwood, R.E..	8	1 0	162 ⅄	25·47	234
D	Glasnevin (Botanic Gardens)	F. W. Moore, Esq.	8	1 0	75 ⅄	28·86	188
D	Balbriggan (Laragh)	Rev. S. P. Warren	5	1 0	57 T	26·10	190
	MEATH.						
D	Athboy	J. Penrose, Esq.	8	1 3	227	31·47	158
	Kells (Headfort)	MajorSomersetMaxwell	5	3 6	230	43·50	...
	Moynalty (Westland)	W. A. Barnes, Esq.	5	1 4	265	33·35	208
	WESTMEATH.						
D	Athlone (Twyford)	J. Hodson, Esq.	5	5 0	188 ⅄	35·11	232
D	Mullingar (Belvedere)	Mr. J. Bayliss	5	1 0	367 T	36·52	193
D	Street [Edgeworthstown]	MajorSomersetMaxwell	8	...	...	36·23	162
	LOUTH.						
D	Ardee (Lissrenny)	T. F. Filgate, Esq.	8	0 10	75 T	29·03	219
D	Louth (Stephenstown)	J. C. W. Fortescue, Esq.	5	0 11	75 ⅄	28·42	220
D	Dundalk (Farndreg)	J. Barton, Esq.	9	1 0	90 T	30·74	162
D	Ravensdale (Anaverna)	Miss Stephen	8	1 9	255 T	36·13	228
D	,, School	Mr. Locke	6	1 6	200	38·98	178
D	Greenore	T. Chambers, Esq.	5	1 0	4 L	31·44	164
	LONGFORD.						
	Edgeworthstown(CurrygraneHo)	J. M. Wilson, Esq.	5	1 0	265 T	35·33	...

DIVISION XXII.—CONNAUGHT.

	GALWAY.						
	Shannon Grove [Banagher]	F. A. Waller, Esq.	5	0 9	...	27·08	...
D	Galway (Queen's College)	Prof. Anderson	5	1 0	22	38·58	235
D	Ballinasloe	W. H. Kempster, Esq.	5	0 6	150 ⅄	34·23	232
	,, (Garbally)	Mr. J. Cobban	8	1 0	157 ⅄	40·63	248
D	Woodlawn	Mr. A. Porter	5	3 6	300 T	44·11	230
D	Ahascragh (Clonbrock)	Rt. Hon. Lord Clonbrock	10	5 6	200 T	41·45	165
D	Clifden (Kylemore House)	Mr. T. McNab	5	1 0	105	76·88	254
D	,, (,, Castle)	Mr. W. Farmer	5	0 9	...	75·15	265
	Tuam (Castle Hacket)	Mrs. Bernard	5	1 0	...	38·61	209
	,, (Gardenfield) M	H. Kirwan, Esq.	5	1 0	155 T	39·89	...
	,, (,,) ...*Snowdon*	,, ,, ,,	5	6 0	160 T	39·75	...
	ROSCOMMON.						
D	Donamon (Castlecoote)	Mr. A. Chute	5	0 10	197 T	38·10	242
	MAYO.						
	Ballinrobe (Cranmore)	Miss Knox	5	0 9	99	44·46	...
	,, (Kilrush)	J. Simson, Esq.	5	1 0	120 T	36·46	...

DIVISION XXII.—CONNAUGHT—(*continued.*)

	STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground	Height Above SeaLevel	Depth of Rain. 1890	Days on which .01 or more fell
				ft. in.	feet.	inches.	
	MAYO—(*con.*)						
D	Crossmolina (Enniscoe)	J. Pratt, Esq.	5	0 11	74 T	47·28	249
	Belmullet	The Meteor. Council	8	...	...	52·29	270
	SLIGO.						
D	Collooney (Markree Observatory)	A. Marth, Esq.	5	1 0	130 ⅄	40·79	250
	,, (,, ,,)	,, ,, ,,	5	16 6	148 ⅄	35·19	242
D	Sligo (Mount Shannon)	F. M. Olpherts, Esq.	5	4 5	70 B	43·68	221
	Mullaghmore	The Meteor. Council	8	1 2	40	41·81	244
	LEITRIM.						
D	Ballinamore (Lawderdale)	J.O. Lawder, Esq., C.E.	5	1 0	275 T	42·61	256

DIVISION XXIII.—ULSTER.

	CAVAN.							
D	Lough Sheelin (Arley)	Major S. H. Maxwell	8	2	0	230 L	36·84	236
D	Belturbet (Red Hills)	Rev. E. B.W. Venables	5	0	9	208 ⅄	33·56	198
	FERMANAGH.							
	Enniskillen (Florence Court)	The Earl of Enniskillen	8	1	9	250 T	40·36	184
	Brookboro' (Colebrook Park)	The Meteor. Council	...	1	0	279	39·58	211
	MONAGHAN.							
D	Dartrey [Cootehill]	MajorSomersetMaxwell	5	3	0	270	36·46	212
D	Castleblayney	,, ,, ,,	12	1	6	350	40·98	182
D	Glaslough House	,, ,, ,,	12	3	6	150	36·51	179
	ARMAGH.							
D	Edward St. Station [Newry]	J. L. D. Meares, Esq.	5	1	0	22 ⅄	36·95	122
D	Armagh Observatory	Dr. Dreyer	8	1	0	205 ⅄	30·08	229
D	Lurgan (Belle Vue)	F. W. Bell, Esq.	5	0	4	200 T	27·25	198
	DOWN.							
D	Warrenpoint (Summer Hill)	Mr. B. M. Kernan	5	1	0	30 L	33·23	118
	Newcastle (Fairleigh)	Rev. J. H. Seymour	5	1	2	12	49·13	195
D	Rathfryland (Ballynagappoge)	J. Smyth, Esq., C.E.	5	3	0	300	31·05	152
D	Castlewellan (Lough Island)	,, ,, ,,	10	3	0	442 T	46·32	168
	Banbridge (Katesbridge)	A. Mulligan, Esq.	5	1	0	230	24·74	...
D	Seaforde	Col. Forde	8	0	5	180 ⅄	33·35	211
D	Banbridge (Corbet Reservoir)	J. Smyth, Esq., C.E.	10	3	0	234 T	23·05	114
D†	,, (Milltown)	,, ,, ,,	8	0	8	200 T	29·92	208
D†	Waringstown	Col. Waring, M.P.	8	0	8	191 ⅄	35·17	223
D	Sydenham (Alma House)	R. Reade, Esq.	5	1	0	60	33·60	204
	Donaghadee	The Meteor. Council	8	1	6	30	27·98	228

DIVISION XXIII.—ULSTER—(*continued*).

STATIONS.	AUTHORITIES.	Rain Gauge. Diameter	Height Above Ground ft.	Height Above Ground in.	Height Above Sea Level	Depth of Rain. 1890	Days on which .01 or more fell
					feet	inches.	
ANTRIM.							
Aghalee [Lurgan]	F. L. Turtle, Esq.	5	1	0	105 ⊼	31·54	194
Stonyford (Belfast W. W.)	L.L.Macassey, Esq.,CE	5	0	7	470 ⊼	35·23	216
,, (,, ,,) ... M	,, ,, ,,	5	0	7	470 ⊼	35·10	...
D† Belfast (Queen's College)	Mr. W. Taylor	11	7	4	68 ⊼	32·58	201
D ,, (New Barnsley)	J. Firth, Esq.	5	1	0	200 T	41·54	233
D† ,, (Antrim Road)	G. Thompson, Esq.	7	7	0	144 T	35·19	227
†Antrim (The Manse)	Rev. Dr. Orr	5	1	0	150 ⊼	32·26	175
Carrickfergus (Dorisland)	G. E. Reilly, Esq.	5	1	0	250	39·99	270
,, (South Woodburn)	,, ,,	5	1	0	640 ⊼	46·14	278
D ,, (North Woodburn)	,, ,,	5	1	0	735 ⊼	48·62	281
,, (Copeland)	,, ,,	5	1	0	424 ⊼	36·04	258
,, (Lough Mourne)	,, ,,	5	1	0	596 ⊼	42·24	270
D Ballynure (Ballyboley)	Mr. T. H. Craig	5	1	4	400	42·07	202
Ballymena (Harryville)	A. Dawson, Esq.	5	1	5	150 T	41·41	254
D Broughshane (Quolie)	J. Lanyon, Esq., C.E.	5	1	0	893	38·62	242
D Ballymoney (Balnamore)	W. H. Lawlor, Esq.	5	1	5	50 T	37·27	236
D Stranocum (Gardenvale)	A. McNeill, Esq.	5	1	6	150	44·15	186
D Cushendun (Agolagh)	Rev. St. A. Brenan	5	1	0	100 T	37·42	191
D Bushmills (Dundarave)	Sir F.E. Macnaghten, Bt	5	1	0	162 T	40·22	231
LONDONDERRY.							
D Garvagh (Moneydig)	Miss Morrison	5	1	0	121	38·38	214
D Londonderry (Clooney Terrace)	Mr. J. Conroy	5	1	0	75 ⊼	42·50	243
D ,, (Creggan Res.)	Mr. J. Hutchinson	8	1	0	320 T	43·95	258
D Limavady	C. D. H. Campbell, Esq.	5	4	0	81 T	35·74	253
,, (Drenagh)	C. T. McCausland, Esq	5	1	0	80	38·48	234
Bellarena	Sir F. W. Heygate, Bt.	5	3	0	12 T	37·36	203
D Coleraine	J. Kennedy, Esq.	5	4	0	52 T	38·23	208
TYRONE.							
Moy (Derrygally)	W. M. Bond, Esq.	10	5	6	45	31·11	...
,, (,,)	,, ,, ,,	5	5	6	45	35·83	155
D Sixmilecross Rectory	Rev. R. S. E. Hamilton	5	1	0	400	39·46	234
D Stewartstown (The Square)	A. Johnston, Esq.	5	1	4	300 T	34·35	194
D Dungannon (Rockdale)	Col. Lowry	5	1	0	300 T	35·84	214
,, (,,) ... M	,, ,,	5	1	0	270 T	37·70	...
D Stewartstown (Ardtrea Rectory)	Ven. Archd. Meade	5	1	0	191 T	34·63	219
D Omagh (Edenfel)	Col. Buchanan	8	1	0	280 T	38·38	246
DONEGAL.							
Killybegs	A. Brooke, Esq.	5	1	0	30	61·85	241
Castlefinn (Finn Lodge)	Sir F. W. Heygate, Bt.	5	1	0	50	34·57	178
Raphoe (Convoy Ho.)	Col. Montgomery	5	1	0	110 T	40·69	233
Bloody Foreland (Ardnadrean)	Rev. W. S. Griffith	5	0	9	39 T	48·43	...
D Buncrana (Rockfort)	T. Colquhoun, Esq.	5	1	0	40 T	42·17	249
D Moville (Prospect Villa)	Mr. J. Lowry	8	1	6	78 L	35·95	250
D ,, (The Rectory)	Rev. S. R. Craig	5	1	0	110 B	43·42	255
D Lough Swilly (Carrablagh)	H. C. Hart, Esq.	5	1	0	130	43·55	267
Malin Head	The Meteor. Council	8	...		...	33·65	237

G. J. S.

RULES FOR RAINFALL OBSERVERS

EXTRACTED FROM

ARRANGEMENTS

FOR THE

SYSTEMATIC OBSERVATION AND RECORD

OF THE

RAINFALL OF THE BRITISH ISLES

BY

G. J. SYMONS, F.R.S.

EIGHTH EDITION.

SUGGESTIONS FOR SECURING UNIFORMITY OF PRACTICE AMONG RAINFALL OBSERVERS.

I.—SITE.—A rain gauge should not be set on a roof, a slope, or a terrace, but on a level piece of ground, at a distance from shrubs, trees, walls, and buildings—at the very least, as many feet from their base as they are in height. Tall-growing flowers, vegetables, and bushes must be kept away from the gauge. If a thoroughly clear site cannot be obtained, shelter is most endurable from N.W., N., and E., less so from S., S.E., and W., and not at all from S.W. or N.E.

II.—OLD GAUGES.—Old established gauges should not be moved, nor their registration discontinued until, at least, two years after a new one has been in operation, otherwise the continuity of the register will be irreparably destroyed. Both the old and the new ones must be registered at the same time, and the results recorded for comparison. Changes, where inevitable, are least objectionable if made on January 1st.

III.—LEVEL AND FIXING.—The funnel of a rain gauge must be set quite level, and the gauge so firmly fixed that it will remain so in spite of any gale of wind or ordinary circumstance. Its correctness in this respect should be tested from time to time.

IV.—HEIGHT.—The funnels of gauges newly placed should be 1 ft. above grass. Information respecting height above sea level may be obtained from the Editor.

V.—RUST.—If the funnel of a japanned gauge becomes so oxidised as to retain the rain in its pores, or threatens to become rusty, it should have a coat of gas tar, or japan black. Copper gauges are free from this evil, and far the best.

VI.—FLOAT GAUGES.—If the measuring rod is detached from the float, it should never be left in the gauge. If it is attached to the float, it should be pegged or tied down, and only allowed to rise to its proper position at the time of reading. To allow for the weight of the float and rod, these gauges are generally so constructed as to show 0 only when a small amount of water is left in them. Care must always be taken to set the rod to the zero or 0.

VII.—CAN AND BOTTLE GAUGES.—The measuring glass should always be held upright, or placed on a level slab; the reading is to be taken midway between the two apparent surfaces of the water.

VIII.—TIME OF READING.—Nine a.m. daily; if taken only monthly, then 9 a.m. on the 1st.

IX.—Date of Entry.—The amount measured at 9 a.m. on any day is to be set against the previous one; because the amount registered at 9 a.m. of, say, 17th contains the fall during 15 hours of the 16th, and only 9 hours of the 17th.

X.—Mode of Entry.—If less than one-tenth (·10) has fallen, the cypher must *always* be prefixed; thus, if the measure is full up to the seventh line, it must be entered as ·07, that is, no inches, no tenths, and seven hundredths. There must always be two figures to the right of the decimal point. Even in the case of one-tenth of an inch (usually written ·1) a cypher must be added, making it ·10. Neglect of this rule causes much inconvenience. All columns should be cast *twice*—once up and once down, so as to avoid the same error being made twice. Never copy a total, always cast the column afresh. When there is no rain, a line should be drawn rather than cyphers inserted.

XI.—Caution.—The amount should always be written down before the water is thrown away.

XII.—Small Quantities.—The unit of measurement being ·01, observers whose gauges are sufficiently delicate to show less than that, are, if the amount is under ·005, to throw it away, if it is ·005 to ·010 inclusive, they are to enter it as ·01.

XIII.—Absence.—Every observer should train some one as an assistant; but where this is not possible, instructions should be given that the gauge be emptied at 9 a.m. on the 1st of the month, and the water bottled, labelled, and tightly corked, to await the observer's return.

XIV.—Heavy Rains.—When very heavy rains occur, it is desirable to measure immediately on their termination, and it will be found a safe plan after measuring to return the water to the gauge, so that the morning registration will not be interfered with. Of course if there is the slightest doubt as to the gauge holding all that falls, it must be emptied, the amount being written down, and added to the subsequent measurement.

XV.—Snow.—In snow three methods may be adopted—it is well to try them all. (1) Melt what is caught in the funnel by adding to the snow a previously ascertained quantity of warm water, and then, deducting this quantity from the total measurement enter the residue as rain. (2) Select a place where the snow has not drifted, invert the funnel, and turning it round, lift and melt what is enclosed. (3) Measure with a rule the average depth of snow, and take one-

twelfth as the equivalent of water. This being a very rough method, is not to be adopted if it can be avoided. Some observers use in snowy weather a cylinder of the same diameter as the rain gauge, and of considerable depth. If the wind is rough, all the snow is blown out of a flat-funnelled rain gauge. Snowdon pattern gauges are much the best.

XVI.—OVERFLOW.—Not a year passes in which some gauges are not allowed to overflow, it is therefore necessary to call attention to the fact that there does not seem to be any part of the British Isles where 4 inches may not fall in 24 hours. It is not desirable to purchase any gauge of which the capacity is less than 6 inches.

XVII.—SECOND GAUGES.—It is desirable that observers should have two gauges, and that one of them should be capable of holding 8 inches of rain. One of the gauges should be registered daily, the other weekly or monthly as preferred, but always on the 1st of each month. By this means a thorough check is kept on accidental errors in the entries, which is not the case if *both* are read daily. Observers having two gauges and recording both daily, should keep the records distinct, and forward a copy of each. Never take a mean of two.

XVIII.—DEW AND FOG.—Small amounts of water are at times deposited in rain gauges by fog and dew; they should be added to the amount of rainfall, because (1) they "tend to water the earth and nourish the streams;" and not for that reason only, but (2) because in many cases the rain gauges can be visited only monthly, and it would then obviously be impossible to separate the yield of snow, rain, &c. therefore, for the sake of uniformity, all must be taken together, and as except by watching all night it is never possible to be certain that small amounts are wholly dew, it is best to count all entries of ·01 in. or upwards as days with rain.

XIX.—DOUBTFUL ENTRIES.—Whenever there is the least doubt respecting the accuracy of any observation, the entry should be marked with a **?**, and the reason stated for its being placed there.

XX.—BREAKAGE.—The Editor has no desire to supply rain gauges or glasses, or in any way to undertake, or interfere with, that which is the business of Opticians; but the continuity and permanent accuracy of the records of his correspondents is to him of such importance, that he deems it advisable to announce that any assistance in his power is always at their service.

XXI.—LEAKAGE.—Observers should test their gauges occasionally to see that the amount collected is neither increased nor decreased by leakage.

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